Hawkins\
Brown

190149 Haringey Civic Centre

Architectural Work Sections

HCC-HBA-XX-XX-SP-A-000101

12 October 2023

This document includes:

Title	Status	Revision	Date
Architectural Work Sections	A3 - Authorized and Accepted	C2	12 October 2023

Contents

C40 Cleaning masonry/ concrete / stone....1
C41 Repairing/ renovating/ conserving masonry / stone....5
C42 Repairing/ renovating/ conserving concrete....16
C51 Repairing/ renovating/ conserving timber....20
C90 Alterations - repair, refurbish, refit....25
E20 Formwork for in situ concrete....27
F10 Brick/ block walling....31
F30 Accessories/ sundry items for brick/ block/ stone walling....39
F31 Precast concrete sills/ lintels/ copings/ features....44
G10 Structural steel framing....51
H11 Curtain walling....55
H92 Rainscreen cladding....62
J31 Liquid applied waterproof roof coatings....71
J41 Reinforced bitumen membrane roof coverings....91
K10 Gypsum board dry linings/ partitions/ ceilings....125
K13 Rigid sheet fine linings and panelling....146
K32 Panel cubicles/ duct and wall linings/ screens....157
K40 Demountable suspended ceilings....159
K41 Raised access floors....167
L10 Windows/ rooflights/ screens/ louvres....173
L20 Doors/ shutters/ hatches....184
L30 Stairs/ ladders/ walkways/ handrails/ balustrades....201
L35 Fixed utilitarian access systems....208
L40 General glazing....212
M10 Cement based levelling/ wearing screeds....215
M12 Resin flooring....224
M20 Plastered/ rendered/ roughcast coatings....229
M21 Insulation with rendered finish....235
M40 Stone/ concrete/ quarry/ ceramic tiling/ mosaic....240
M41 Terrazzo tiling/ in situ terrazzo....248
M50 Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting....252
M60 Painting/clear finishing....262
M61 Intumescent coatings for fire protection of steelwork....273
N10 General fixtures/ furnishings/ equipment....275
N11 Domestic kitchen fittings, furnishings and equipment....294
N13 Sanitary appliances and fittings....299

N14 General internal signage systems....311
N15 Internal fire and safety signage systems....314
N25 Permanent access and safety equipment....318
P10 Sundry insulation/ proofing work....323
P12 Fire-stopping systems....325
P20 Unframed isolated trims/ skirtings/ sundry items....330
Q37 Green roofs....334
Q40 Fencing....342
Q50 Site/ street furniture/ equipment....344
X12 Vertical lifting platform and homelift systems....345
Z10 Purpose made joinery....347
Z11 Purpose made metalwork....349
Z12 Preservative/ flame-retardant treatment....355
Z20 Fixings and adhesives....358
Z21 Mortars....362
Z22 Sealants....366
Z31 Powder coatings....368
Z33 Anodizing....373

C40
Cleaning masonry/ concrete / stone

General/ preparation

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Scope of work

1. As covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001 and as items as listed below.

   Refer to marked up version of external & internal PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.

   Light touch clean to all existing masonry to specialist's recommendations (with SE input where required). Please also refer to C41 and C42 for details of repair.

   Items to be included:

   - External marble to east elevation and columns.
   - Brickwork.
   - Window surrounds east elevation.
   - Precast cornice / parapet
   - Precast coping on south elevation
   - L30/275 and 276 Internal stairs
   - M40/115, 116 and 117 Internal tiling
   - M41/120 Terrazzo flooring

   All recommendations to be developed and validated by specialist subcontractor.

   Cleaning carried out in accordance with BS 8221 Code of practice for cleaning and surface repair of buildings.

   Recommend undertaking cleaning trials of any alternative systems or proposed use of chemical products to clean masonry. Avoid use of dry abrasive systems

   Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

Benchmark sample as clause 230 to be completed and agreed with Employer's Representative / local authority / Historic England.

115A Cleaning of Travertine Marble

1. Refer to marked up version of external PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
2.
    1. Pre-wet with clean cold water
    2. Apply Vulpex soap at 6:1 dilution.
    3. Agitate with a stiff bristle brush and leave to dwell for 5 minutes.
    4. Rinse off using DOFF

115B Cleaning of Brickwork

1. Refer to marked up version of external PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
2.
    1. Protect all windows and door openings and visible points of possible water ingress using heavy duty polythene and tape.
    2. Clean down brickwork using DOFF controlled low pressure steam system to remove surface soiling.

115C Cleaning of Pre-cast stonework – Light-medium surface soiling

1. Refer to marked up version of external PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
2.
    1. Protect all windows and door openings and visible points of possible water ingress using heavy duty polythene and tape.
    2. Clean down pre-cast stonework using DOFF controlled low pressure steam system to remove surface soiling.

115D Cleaning of Pre-cast stonework – Medium-heavy surface soiling

1. Refer to marked up version of external PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
2.
    1. Protect all windows and door openings and visible points of possible water ingress using heavy duty polythene and tape.
    2. Pre-wet pre-cast using nebulous sprays of clean cold water to soften soiling at 2.8 bar pressure.

3. Clean down pre-cast stonework using DOFF controlled low pressure steam system to remove surface soiling.

120 Related repair and remedial works

1. Work to be carried out before cleaning work: Refer to C41 and C42 sections and marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 and HCC-PAYE-ZZ-ZZ-RP-C-000002).

142 Removal of fittings

1. Timing: Before commencement of cleaning work
2. Disturbance to surfaces: Minimize.
3. Items for disposal: Redundant fixtures and fittings as shown in strip out elevations and MEP strip out specification.
4. Items to be kept for reuse: Any heritage features or items identified in strip out elevations.

160 Protection

1. Surfaces not designated for cleaning: Prevent damage, including marking and staining.
2. Openings: Prevent ingress of water, cleaning agents and detritus.
   2.1. Vents and grilles: Seek instructions before sealing up.
3. Temporary mechanical fastenings
   3.1. In masonry: Locate in joints.
   3.2. In other surfaces: Seek instructions.
4. Additional protection: Submit proposals.

175 Control and disposal of wash water and detritus

1. Disposal: Safely. Obtain approvals from relevant Authority.
2. Control of wash water: Collect and divert to prevent ingress and damage to building fabric and adjacent areas.
3. Above and below ground drainage systems: Keep free from detritus and maintain normal operation.

180 Cold weather

1. Cleaning procedures using water: Do not use when air temperature is at or below 5°C. Protect damp surfaces from frost.
2. Chemical cleaning agents: Do not use when surface temperatures are below those recommended by manufacturer.

190 Cleaning generally

1. Timing: Works may not start on site until all necessary approvals are received from the local planning authority and from Historic England as appropriate.
2. Operatives: Appropriately trained and experienced for each type of cleaning work.
   2.1. Evidence of training: Submit on request.
3. Control of cleaning: Confine cleaning processes and materials to designated areas. Prevent wind drift.
4. Detritus: Remove regularly. Dispose of safely.

5. Monitoring
   5.1. Frequently check results of cleaning compared to approved trial samples. If results established by trials are not achieved, seek instructions.
   5.2. Works to be inspected and approved in accordance with the requirements of the local planning authority.
6. Modifications to cleaning methods and materials: Seek instructions.

215 Record of cleaning works

1. Written report: Record cleaning methods and procedures used for each type of surface and deposit.
   1.1. Content: Relevant attributes of cleaning methods used including:
      1.1.1. Equipment and settings.
      1.1.2. Dwell times.
      1.1.3. Number of applications.
      1.1.4. Ambient temperatures.
2. Additional documentation: None
3. Submission: At completion of cleaning works.

230 Trial samples

1. Trial sample reference: Scope to be confirmed by specialist subcontractor and agreed with Employer's Representative and Conservation Officer. Arrange for inspection before proceeding with the remainder.
2. Samples as required until accepted by the Employer's Representative, Architect, Structural Engineer and Conservation Officer.
3. Works to be done to match PAYE cleaning and repair trials (HCC-PAYE-ZZ-ZZ-RP-C-000001 and HCC-PAYE-ZZ-ZZ-RP-C-000002). If an alternative contractor appointed, they are to produce their own samples and mock-ups to be approved by Conservation Office / Local Authority.
4. Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

Products/ equipment

300 General

1. Product, equipment and method to be confirmed by specialist and agreed with Employer's Representative / local authority / Historic England.

Application - Not Used

Ω End of Section

C41
Repairing/ renovating/ conserving masonry / stone

Generally/ preparation

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Scope of work

1. As covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001 and as items as listed below.

   Refer to marked up version of PAYE internal & external reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.

   Works to be done to match PAYE cleaning and repair trials. Samples and mock-ups to be approved by Conservation Officer. If an alternative contractor appointed, they are to produce their own samples and mock-ups to be approved by Conservation Office / Local Authority.

   Light touch clean to all existing masonry to specialist's recommendations (with SE input where required) - please also refer to C40 for details of repair.

   All recommendations to be developed and validated by specialist subcontractor.

   Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

   Benchmark sample as clause 190 to be completed and agreed with Employer's Representative / local authority / Historic England.
2. Records of masonry to be repaired: Before starting work, use measurements and photographs as appropriate to record bonding patterns, joint widths, special features, etc.

3. Identification of masonry units to be removed, replaced or repaired: Mark clearly, but not indelibly, on face of masonry units or parts of units to be cut out and replaced. Transcribe markings to drawings/ photographs.
4. Where scope requires removal, salvage and retain units and store for re-use elsewhere. Refer to Structural Engineer information. Further investigations are required to assess if stone floor/wall tiles can be lifted before works. The contractor is to submit the method statement prior.

115 Repair to brickwork facade

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
    1.1. Number of defects present – cracks, abrasive cleaned brickwork with loss of fire skin, visible corroded support angle, visible subsidence. Cut out fractured facing brickwork. Supply and fix new bricks with replacement bricks to match existing – samples to be provided for approval.
    1.2. Where fractured brickwork has been identified for replacement any exposed similar fracturing through the backing structure has not been included for repair as its unknown until the fractured bricks are removed. In all cases of fracturing and displacement of masonry it is recommended that a suitably qualified structural engineer is consulted to help determine the cause and develop an appropriate repair strategy.
    1.3. The area of bricks which appear to have been heavily abrasively cleaned are damaged and have lost a degree of protective fire skin that would have formed when fired. This potentially makes the bricks more susceptible to further deterioration though freeze thaw action. Replacement to be considered.
    1.4. Repair required to backing structure as recommended by specialist subcontractor.
    1.5. Contractor to appoint engineer to verify cause of cracking brickwork, any inherent on-going defect and develop repair strategy
    1.6. General repairs to mortar to be completed with mortar to match existing mortar. Carry out mortar analysis to accurately match and agree through sampling.
    1.7. Re-pointing:
        1. Rake out loose and friable pointing to a depth not less than 25mm or the width of the joint whichever is the greatest.
        2. Remove dust and loose debris using a bristle brush or water wash.
        3. Work from the top to the bottom of the wall.
        4. Dampen joints to control suction as necessary.
        5. Repoint using Westerham sand, opc and hydrated lime. Mix ratio 5:1:1
        6. Finish pointing to match existing.

116 Repair to marble to east elevation

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
    1.1. Signs of movement to travertine cladding, fractured plinth. Recommend removal to verify condition and suitability of fixings. Remove, salvage and re-fix loose, displaced travertine marble cladding.
    1.2. Deconstruction:
        1. Take record photographs to record existing condition.

2. Provide a sketch drawing to show joint arrangement and dimensions of cladding units to be removed.
3. Give each unit a unique reference number.
4. Cut out bed joints using a 2mm diamond blade.
5. Where possible cut through copper wire restraint.
6. Ease unit off and set aside.
7. Clean off mortars.
8. Write on the rear face the unit its unique reference number using indelible marker.

1.3. Re-build:

1. Re-fix salvaged units in reverse order.
2. Bed on lime mortar.
3. Restrain using stainless steel fixings.

117 Repair to York stone threshold

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.

1.1. Replacement with new York stone threshold to match. Detail and method statements to be provided by specialist contractor for approval by client and conservation officer

118 Repair to internal items

1. To follow PAYE recommendations & report (HCC-PAYE-ZZ-ZZ-RP-C-000002). Include items as listed below.

1.1. L30/275 and 276 Internal stairs

1.2. M40/115, 116 and 117 Internal tiling

1.3. M41/120 Terrazzo flooring

120 Site inspection

1. Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of works.
2. Parties involved: Employer's Representative, Contractor's Representative, Architect, Structural Engineer and Conservation Officer.
3. Timing: At least 5 working days before starting each section of work. A longer period may be required for items identified within Listed Building consent or planning conditions where proposals may need to be approved in writing by conservation bodies before works commence .
4. Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work.

125 Removal of fittings/ fixtures

1. Items to be removed, and reinstated on completion of repair work: Any heritage features or items identified in strip out elevations.

1.1. Identification: Attach labels or otherwise mark items using durable, non-permanent means, to identify location and describe refixing instructions, where applicable.

1.2. Treatment following removal: Submit proposals to be agreed with by specialist/conservation officer and architect. Refurbish & repair as necessary. Allow

for removal of existing paint finish, substrate to be made good. Re-finish with paint colour to match existing - colour / paint finish to be agreed with local authority.

1.3. Storage: Protect against damage, and store until required.

1.3.1. Storage location: Submit proposals.

1.4. Reinstatement: Refit in original locations using original installation methods.

2. Items unsuitable or not required for reuse: Redundant fixtures and fittings as shown in strip out elevations and MEP strip out specification.

2.1. Disposal: Submit proposals and list of all items to be removed for the approval of conservation bodies regarding Heritage value and to conform to BREEAM requirements.

3. Masonry fabric and surfaces: Do not damage during removal and replacement of fittings/ fixtures.

130 Removal of plant growths from masonry

1. Plants, root systems and associated soil/ debris: Carefully remove from joints, voids and facework.
2. Removal of roots: Where growths cannot be removed completely without disturbing masonry seek instructions.
3. Unwanted plants close to masonry: Where removal of root system is not possible or desirable, cut through stem as close to the ground as possible. Remove bark from stump and apply herbicide paste. Leave stump to wither.

140 Record of work

1. General: Record work carried out to masonry clearly and accurately using written descriptions, sketches, drawings and photographs, as necessary.
2. Specific records: Photogrammetric survey drawings marked up to show replacement.
3. Documentation: Submit on completion of the work.

3.1. Number of sets: One hard copy and digital issue.

Workmanship generally

150 Power tools

1. Usage for removal of mortar: Not permitted.

155 Putlog scaffolding

1. Usage: Not permitted.

160 Protection of masonry units and masonry

1. Masonry units: Prevent overstressing during transit, storage, handling and fixing. Store on level bearers clear of the ground, separated with resilient spacers. Protect from adverse weather and keep dry. Prevent soiling, chipping and contamination. Lift units at designed lifting points, where provided.
2. Masonry: Prevent damage, particularly to arrises, projecting features and delicate, friable surfaces. Prevent mortar/ grout splashes and other staining and marking on facework. Protect using suitable nonstaining slats, boards, tarpaulins, etc. Remove protection on completion of the work.

165 Structural stability

1. General: Maintain stability of masonry. Report defects, including signs of movement that are exposed or become apparent during the removal of masonry units.

170 Disturbance to retained masonry

1. Retained masonry in the vicinity of repair works: Disturb as little as possible.
2. Existing retained masonry: Do not cut or adjust to accommodate new or reused units.
3. Retained loose masonry units and those vulnerable to movement during repair works: Prop or wedge so as to be firmly and correctly positioned.

180 Workmanship

1. Skill and experience of site operatives: Appropriate for types of work on which they are employed.
    1.1. Documentary evidence: Submit on request.

185 Adverse weather

1. General: Do not use frozen materials or lay masonry units on frozen surfaces.
2. Air temperature: Do not bed masonry units or repoint:
    2.1. In cement gauged mortars when ambient air temperature is at or below 3°C and falling or unless it is at least 1°C and rising, unless mortar has a minimum temperature of 4°C when laid and the masonry is adequately protected.
    2.2. In hydraulic lime:sand mortars when ambient air temperature is at or below 5°C and falling or unless it is at least 3°C and rising.
    2.3. In nonhydraulic lime:sand mortars in cold weather, unless approval is given.
3. Temperature of the work: Maintain above freezing until mortar has fully set.
4. Rain, snow and dew: Protect masonry by covering during precipitation, and at all times when work is not proceeding.
5. Hot conditions and drying winds: Prevent masonry from drying out rapidly.
6. New mortar damaged by frost: Rake out and replace.

190 Control samples

1. Scope to be confirmed by specialist subcontractor and agreed with Employer's Representative and Conservation Officer. Arrange for inspection before proceeding with the remainder
2. Samples as required until accepted by the Employer's Representative, Architect, Structural Engineer and Conservation Officer.
3. Works to be done to match PAYE cleaning and repair trials (HCC-PAYE-ZZ-ZZ-RP-C-000001 and HCC-PAYE-ZZ-ZZ-RP-C-000002). If an alternative contractor appointed, they are to produce their own samples and mock-ups to be approved by Conservation Office / Local Authority.
4. Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

Materials/ production/ accessories

215 Material samples

1. Representative samples of designated materials: Submit before placing orders.

1.1. Designated materials: All materials for repair of existing building, including but not limited to masonry, brickwork,stonework render, mortar etc..

2. Retention of samples: Unless instructed otherwise, retain samples on-site for reference. Protect from damage and contamination.

220 Recording profiles

1. Profiles: Take measurements from existing masonry units, as instructed, to allow accurate matching of replacements.
2. Recording in situ: If there are no suitable joints to allow use of inserts, seek instructions.
3. Drawings and templates: Prepare as necessary. Templates must be clearly and indelibly marked to identify use and location.

240 Stone

1. Standard: To BS EN 771-6
2. Supplier: Submit proposals. The original stone must be identified, and availability of suitably sized matching material established. It is essential that replacement stone – either from the original quarry or, where the original is no longer available, an alternative source – is compatible with the existing. Compatibility assessment includes durability, porosity, colour and texture. Allowance to be be made for sourcing sufficient quantities and for seasoning.
3. Type: To match existing.
4. Quality: Free from vents, cracks, fissures, discolouration, or other defects that may adversely affect strength, durability or appearance. Thoroughly seasoned, dressed and worked in accordance with shop drawings prepared by the supplier.
5. Finish: Tooled to match existing.

245 Replacement stone units

1. Sizes and profiles: To match existing masonry. Maintain existing joint widths.
2. Sinkings for fixings, joggles and lifting devices: Accurately aligned and positioned in relation to existing masonry.
3. Marking: Mark each block/ dressing clearly and indelibly on a concealed face to indicate the natural bed and position in the finished work.

250 Stone orientation

1. Orientation of natural bed: To match existing.

260 Bricks

1. Standard: To BS EN 771-1.
2. Manufacturer: Submit proposals
   2.1. Product reference: Submit proposals - to match existing.
3. Size: To match existing.
4. Special shapes: As required to match existing.
5. Recycled content: Submit proposals.

265 Salvaged and second hand bricks

1. Source: Source from suitable areas of demolition / alteration. Existing cracked bricks removed.
2. Condition

2.1. Free from matter such as mortar, plaster, paint, bituminous materials and organic growths.

2.2. Sound, clean and reasonably free from cracks and chipped arrises.

281 Fixings

1. Description: For stonework repairs.
2. Type: Submit proposals.
3. Material: Submit proposals to match existing.
4. Size, strength and number: As necessary to resist loads likely to occur during the life of the building, and to prevent lateral displacement or pulling apart of the construction.

Dismantling/ rebuilding

310 Dismantling masonry for reuse

1. Masonry units to be reused: Remove carefully and in one piece.
   1.1. Treatment: Clean off old mortar, organic growths and dirt, and leave units in a suitable condition for rebuilding.
   1.2. Identification: Mark each unit clearly and indelibly on a concealed face, indicating its original position in the construction. Transcribe makings to drawings/ photographs.

Replacements and insertions

330 Preparation for replacement masonry

1. Defective material: Carefully remove to the extent agreed. Do not disturb, damage or mark adjacent retained masonry.
2. Existing metal fixings, frame members, etc.: Report when exposed.
3. Redundant metal fixings: Remove.
4. Recesses: Remove projections and loose material; leave joint surfaces in a suitable condition to receive replacement units. Protect from adverse weather if units are not to be placed immediately.

350 Stone inserts

1. Description: As required by specialist subcontractor.
2. Stone: Submit proposals, to match existing.
3. Finish: Flush and to match existing.
4. Preparation and insertion: As clause 395.
5. Mortar: As section Z21.
   5.1. Standard: Submit proposals to match existing.
   5.2. Mix: Submit proposals to match existing.
   5.3. Sand source/ type: Submit proposals to match existing.
6. Fine sand to approval
7. Fixings: Submit proposals to match existing.
8. Joints: Very fine.

365 Replacement of bricks

1. Description: As recommended in marked up version of PAYE report (HCC-PAYE-ZZ-ZZ-RP-C-000001) and as specialist subcontractor recommendations.
2. Bricks: To match existing as clause 260.
3. Mortar: As section Z21. Refer to mortar analysis reports.
    3.1. Standard: Submit proposals to match existing.
    3.2. Mix: Submit proposals to match existing.
    3.3. Sand source/ type: Submit proposals to match existing.
4. Fixings: Submit proposals to match existing.
5. Joints: Submit proposals to match existing.

385 Laying replacement masonry units

1. Exposed faces of new material: Keep to agreed face lines.
2. Faces, angles and features: Align accurately. Set out carefully to ensure satisfactory junctions with existing masonry and maintain existing joint widths.
3. Joint surfaces: Dampen to control suction as necessary.
4. Laying units: On a full bed of mortar, all joints filled.
5. Exposed faces: Keep clear of mortar and grout.

390 Grouting joints

1. Grout mix: Submit proposals.
2. Joints that cannot be fully filled with bedding mortar: Grout thoroughly around replacement masonry units.
3. Grouting: Keep grout back from exposed face to allow for the depth of pointing, using an approved temporary sealing material. Prevent grout staining exposed face.

395 Installing stone inserts

1. Pockets to receive inserts
    1.1. Cut out accurately. Undercut sides of pocket where necessary to provide space for bonding material.
    1.2. Adjust depth so that insert stands proud of existing stone for finishing in situ.
    1.3. Clean out thoroughly.
2. Inserts: Cut to the smallest rectangular shape necessary to replace the defective area and provide a firm seating. Install accurately and securely.
    2.1. Exposed faces: Keep clear of bonding material.
3. Existing joint widths: Maintain. Do not bridge joints.

405 Bonded dowels

1. Description: For stone inserts
2. Standard: To BS EN 1090-1
3. Dowels: Consult with Structural Engineer and submit proposals.
4. Adhesive: As recommended by specialist.
5. Holes for dowels: Suitably sized and accurately aligned in masonry background and in rear of replacement/ insert stone; clean and dry.

6. Other requirements: Do not use adhesive to bond stones at joints unless instructed.

410 Corroded metal fixings

1. Removal: Cut out carefully, causing the least possible disturbance to surrounding masonry. Remove associated rust debris.
2. Replacement: Compatible fixings as clause 281.

Tooling/ dressing stone in situ

450 Weathering ledges at joints

1. Locations: Where stones project or are recessed.
2. Requirement: Carefully weather the ledge, to approval.
3. Method: Suitably graded carborundum blocks or tooling as appropriate.

455 Descaling stone

1. Requirement: Carefully remove loose scaling and powdering from stones to the extent agreed.
2. Method: Suitable bristle brushes or carborundum blocks. Do not use wire brushes.

458 Redressing stone

1. Requirement: Carefully dress back stones to the extent agreed.
2. Method: Suitably graded carborundum blocks or tooling as appropriate.

Mortar repairs

510 Preparation for mortar repairs

1. As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 and HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.
2. Repair area: Scribe area of masonry to be removed using straight horizontal and vertical lines parallel to joints. Where repair area abuts joints, maintain existing joint widths and do not bridge joints.
3. Decayed masonry: Cut back carefully to a minimum depth of 20 mm to a sound background. Where the depth of removal exceeds 50 mm, seek instructions.
4. Precautions: Do not weaken masonry by removing excessive material. Do not damage adjacent masonry.
5. Top and vertical reveals of repair area: Undercut.

515 Reinforcement for mortar repairs

1. As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.

520 Mortar repairs

1. Description: As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.
2. Undercoats: As section Z21.
    2.1. Standard: Submit proposals to match existing.
    2.2. Mix: Submit proposals to match existing.

2.3. Sand source/ type: Submit proposals to match existing.

2.4. Building up: In layers where necessary, each layer not exceeding 12 mm.

3. Finishing coat: To match approved samples.

3.1. Standard: Submit proposals to match existing.

3.2. Mix: Submit proposals to match existing.

3.3. Sand source/ type: Submit proposals to match existing.

3.4. Finished thickness: Submit proposals to match existing.

3.5. Finish: Submit proposals to match existing.

4. Reinforcement: If necessary following survey.

540 Applying mortar

1. Surfaces to receive mortar: Clean, and free from dust and debris. Dampen to control suction.
2. Applying coats: Build up in layers to specified thickness. Apply mortar firmly, ensuring good adhesion with no voids. Form a mechanical key to undercoats by combing or scratching to produce evenly spaced lines.
3. Allow each layer to achieve an initial set before applying subsequent coats. Prevent each layer from drying out rapidly by covering immediately with plastics sheeting and/ or dampening intermittently with clean water.
4. Finishing mortar coat: Form accurately to required planes/ profiles, and finish flush with adjacent masonry.
5. Protection: Protect completed repairs from adverse weather until mortar has set.

550 Scraped finish to mortar repairs

1. Procedure: Finish final coat of repair mortar proud of existing masonry face. When mortar is set, but not too hard, scrape back to required face line using fine saw blade or other suitable means, to achieve required finish.

555 Float finish to mortar repairs

1. Procedure: Use a wood float and/ or a felt faced float to give an even overall texture. Do not use steel floats.

Crack repairs/ ties/ reinforcement

610 Mortar repair of cracks

1. Description: As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.
2. Mortar: As section Z21.
3. Preparation: Clean out cracks to remove debris, dust and dirt. Dampen recesses, as necessary, to control suction.
4. Applying mortar: Press well into cracks so that they are fully filled. Ensure that mortar does not encroach upon exposed faces. Finish mortar flush with masonry face.
5. Other requirements: TBC by specialist.

630 Ties

1. Description: As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.

Grouting rubble filled cores - Not Used

Pointing/ repointing

810 Preparation for repointing

1. Existing mortar: Working from top of wall downwards, remove mortar carefully, without damaging adjacent masonry or widening joints, to a minimum depth of 30mm.
    1.1. Loose or friable mortar: Seek instructions when mortar beyond specified recess depth is loose or friable and/ or if cavities are found.
2. Raked joints: Remove dust and debris.

820 Pointing

1. Description: As recommended in marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001 & HCC-PAYE-ZZ-ZZ-RP-C-000002) and as specialist recommendations.
2. Preparation of joints: Carefully brush away loose mortar
3. Mortar: As section Z21.
    3.1. Standard: Submit proposals to match existing.
    3.2. Mix: Submit proposals to match existing.
    3.3. Sand source/ type: Submit proposals to match existing.
4. Joint profile/ finish: Submit proposals to match existing.
5. Other requirements: Grout deep voids, as clause 720

840 Pointing with tools/ Irons

1. General: Press mortar well into joints using pointing tools/ irons that fit into the joints, so that they are fully filled.
2. Face of masonry: Keep clear of mortar. Use suitable temporary adhesive tape on each side of joints where necessary. Finish joints neatly.

860 Brushed finish to joints

1. Timing: After initial mortar set has taken place remove laitance and excess fines by brushing, to give a coarse texture. Do not compact mortar.

Ω End of Section

C42
Repairing/ renovating/ conserving concrete

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Scope of work

1. As covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001 and as items as listed below.

   Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to concrete including all further structural engineer consultation and intrusive investigations.

   All recommendations to be developed and validated by specialist subcontractor.

   Light touch clean to all existing concrete where retained to specialist's recommendations (with SE input where required) - please also refer to C40 for details of repair.

   Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

   Benchmark sample as clause 190 to be completed and agreed with Employer's Representative / local authority / Historic England.

115 Repair to concrete parapet / cornice

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.
   1.1. Exposed previously treated reinforcement treated with Fosroc galvafroid. Base backing coat – Fosroc Renderoc GP. Top/Finish Cost – OPC Based Portland Premixed Mortar with

Calcite (Ratio 12 parts Portland Premix ; I Part Calcite). Top Cost finished gently with wooden float.

1.2. Cut back failed precast cornice nosing and repair as per Paye sample. Not exceeding 240mm girth x 50mm depth

1.3. Allow for post and wire bird deterrent by NBC Environment or acceptable equivalent to parapet copings and cornices. Detailed design and fixing to specialist subcontractor design.

116 Repair to concrete east & west elevation window surrounds

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.

1.1. Defective pre-cast removed, defective rebar rubbed back by mechanical means and treated with Fosroc Galvafroid. Top/Finish Cost – OPC Based Portland Premixed Mortar with Calcite (Ratio 12 parts Portland Premix ; I Part Calcite). Top Cost finished gently with wooden float.

1.2. No surface repairs are to cross existing joints which are to remain isolated.

Where previous surface skim coating has taken place, joints have been covered over.

It is not possible to give a definitive life expectancy on mortar repairs as they are reliant on maintaining adhesion with the base substrate and being sufficiently compatible and resilient to withstand natural erosion through changing seasonal weather patterns . If the primary material is in a deteriorating state or prone to failure, then this will ultimately affect the life of the repair.

Maintenance regime 5-10 years. Every 5 years undertake a condition survey to record condition of masonry. Undertake any at risk repair. Every 10 years carryout repairs recorded in the previous survey.

117 Repair to concrete coping to north & south elevation

1. Refer to marked up version of PAYE reports (HCC-PAYE-ZZ-ZZ-RP-C-000001) and carry out all recommendations to masonry including all further structural engineer consultation and intrusive investigations.

1.1. Defective pre-cast removed, defective rebar rubbed back by mechanical means and treated with Fosroc Galvafroid. Top/Finish Cost – OPC Based Portland Premixed Mortar with Calcite (Ratio 12 parts Portland Premix ; I Part Calcit)e. Top Cost finished gently with wooden float.

1.2. It is not recommended to mortar repair copings as the mortar will not provide sufficient weathering properties in comparison to the pre-cast. Where repair is considered necessary copings should be replaced.

120 Site inspection

1. Purpose: To confirm type and extent of repair/ renovation/ conservation work shown on drawings and described in survey reports and schedules of works.
2. Parties involved: Employer's Representative, Contractor's Representative, Architect, Structural Engineer and Conservation Officer.
3. Timing: At least 5 working days before starting each section of work. A longer period may be required for items identified within Listed Building consent or planning conditions where

proposals may need to be approved in writing by conservation bodies before works commence .

4. Instructions issued during inspection: Confirm in writing, with drawings and schedules as required, before commencing work.

190 Control samples

1. Scope to be confirmed by specialist subcontractor and agreed with Employer's Representative and Conservation Officer. Arrange for inspection before proceeding with the remainder
2. Samples as required until accepted by the Employer's Representative, Architect, Structural Engineer and Conservation Officer.
3. Works to be done to match PAYE cleaning and repair trials (HCC-PAYE-ZZ-ZZ-RP-C-000001 and HCC-PAYE-ZZ-ZZ-RP-C-000002). If an alternative contractor appointed, they are to produce their own samples and mock-ups to be approved by Conservation Office / Local Authority.
4. Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

Products - Not Used

Execution

605 Execution generally

1. Standard: To BS EN 1504-10.
2. Operatives' skill and experience: Appropriate for the types of preparation and application.
   2.1. Evidence: Submit on request.

620 Control samples

1. Scope to be confirmed by specialist subcontractor and agreed with Employer's Representative and Conservation Officer. Arrange for inspection before proceeding with the remainder
2. Samples as required until accepted by the Employer's Representative, Architect, Structural Engineer and Conservation Officer.
3. Records: Maintain written records for each trial area, including cleaning methods and conditions, to enable replication of results elsewhere.

625 Removal of fittings/ attachments

1. Extent: The area of repair and any fittings/ attachments that could impede or be damaged by access.
2. Removal methods: Minimize damage to concrete/ reinforcement and to fittings/ attachments that are to be retained for reuse.
3. Items for disposal: Redundant fixtures and fittings as shown in strip out elevations and MEP strip out specification.
4. Items for refixing after completion of repair work: Any heritage features or items identified in strip out elevations
   4.1. Storage: Prevent damage.

630 Cleaning concrete surfaces

1. Extent: To reveal surface condition and aid investigation work. Minimize disruption to concrete surfaces and materials. Leave no harmful residual cleaning agents.

2. Methods: To specialist recommendations.

635 Temporary supports/ propping

1. Standard: As recommended by specialist.
2. General: Prevent damage and overstressing to any part of structure during repairs.
3. Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.
4. Location/ Extent of propping: As recommended by specialist.

665 Formwork for recasting

1. Generally: Accurately and robustly constructed to produce finished concrete to the required dimensions.
   1.1. Formed surfaces: Free from twist and bow.
   1.2. Intersections, lines and angles: Square, plumb and true.
2. Joints in forms: Secure forms tight against existing concrete. Prevent loss of grout and formation of steps.

670 Grouting cracks/ voids

1. Substrates: Clean. Keep free of detritus.
2. Pressure: Minimum necessary to fill cracks completely. Leave no voids and prevent disruption to structure.

675 Curing concrete/ mortar

1. Requirement: Keep surface layers of concrete/ mortar moist throughout curing period, including perimeters and abutments, by either restricting evaporation or continuously wetting surfaces of concrete/ mortar.
   1.1. Surfaces covered by formwork: Retain formwork in position and, where necessary to satisfy curing period, cover surfaces immediately after striking.
   1.2. Top surfaces: If covering is removed for finishing operations, replace it immediately afterwards

Completion

710 Record of location/ extent of repairs

1. Repair record forms
   1.1. Content: Unique repair reference number for cross-referencing to record drawings; details of repair including dimensions and explanatory sketches; agreements and special requirements.
   1.2. Copies: One hard copy and digital issue
2. Record drawings: Required

Ω End of Section

C51
Repairing/ renovating/ conserving timber

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

100 Scope

1. Refer to report by Luard Conservation and as covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001 and as items as listed below.
   Scope to be assessed by specialist contractors at Stage 4 with benchmark samples to be agreed with conservation officer
2. Works should be carried out by an experienced conservation joiner – evidence to be provided for client approval prior to works commencing. All recommendations to be developed and validated by specialist subcontractor.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Inspection

1. Purpose: To confirm nature and extent of repair/ renovation/ conservation work shown on drawings, and described in survey reports and schedules of work.
2. Parties involved: Employer's Representative, Contractor's Representative, Architect, Structural Engineer and Conservation Officer.
3. Timing: At least 5 working days before starting each section of work. A longer period may be required for items identified within Listed Building consent or planning conditions where proposals may need to be approved in writing by conservation bodies before works commence .
4. Instructions issued during inspection: Confirm in writing, with drawings and schedules as required.

130 Opening up

1. Purpose: To reveal previously concealed areas of structure or fabric not recorded during initial surveys.
2. Extent: Submit proposals. To be agreed with Design Team and Local Authority Conservation Officer and
   Historic England.
3. Timing: Give notice before starting opening up.
   3.1. Period of notice: At least two working days
4. Retained building structure/ fabric: Do not damage or destabilize.

150 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well-managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with the chain of custody certification scheme requirements:
   2.1. documentary evidence (that has been or can be independently verified) regarding the provenance of all timber supplied; or
   2.2. evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of Custody Certification scheme: In accordance with UK Government Timber Procurement Policy (UKTPP) i.e. FSC, GiB or PEFC

160 Timber supplier

1. Supplier: Submit proposals.

Structural repairs/ alterations - Not Used

Products - Not Used

Execution

600 Workmanship

1. Skill and experience of site operatives: Appropriate for types of work on which they are employed.
   1.1. Documentary evidence: Submit on request.

605 General notes

1. No masking tape or Sellotape is to be used on any of the panelling or other historic woodwork, only Low Tack tape is acceptable. Masking tape and Sellotape should not be used on the historic surfaces – after 24 hours they will harden and when removed they will remove the varnish beneath.
2. Blue Tack should not be used on any of the historic finishes – Blue Tack contains oils that will migrate into the timber and produce stains that are very difficult to remove.

610 Temporary supports/ propping

1. General: Provide adequate temporary support at each stage of repair work to prevent damage, overstressing or uncontrolled collapse of any part of the structure.
2. Bearings for temporary supports/ propping: Suitable to carry loads throughout repair operations.

620 Protection of timber and wood components before and during installation

1. Storage: Keep dry, under cover, clear of the ground and with good ventilation. Support sections/ components on regularly spaced, level bearers on a dry, firm base.
2. Handling: Do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.

622 Finished appearance

1. All visible timber repairs to be benchmarked on site.

630 Material samples

1. Representative samples of designated materials: Submit before placing orders.
    1.1. Designated materials: Replacement timber.

650 Dimensions generally

1. Site dimensions: Take as necessary before starting fabrication.
    1.1. Discrepancies with drawings: Report without delay and obtain instructions before proceeding.

660 Cross section dimensions of structural softwood and hardwood

1. Dimensions: Dimensions in this specification and shown on drawings are target sizes as defined in BS EN 336.
2. Tolerances: The tolerance indicators (T1) and (T2) specify the maximum permitted deviations from target sizes as stated in BS EN 336, clause 4.3:
    2.1. Tolerance class 1 (T1) for sawn surfaces.
    2.2. Tolerance class 2 (T2) for further processed surfaces.

665 Cross section dimensions of non-structural softwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-1, clause 6 for sawn sections.

670 Cross section dimensions of non-structural hardwood

1. Dimensions: Dimensions in this specification and shown on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes: As stated in BS EN 1313-2:
    2.1. Clause 6 for sawn sections.
    2.2. Clause NA.3 for further processed sections.

680 Warping of timber

1. Bow, spring, twist and cup: Not greater than the limits set down in BS 4978 or BS EN 14081-1 for softwood, or BS 5756 for hardwood

690 Processing treated timber

1. Cutting and machining: Carry out as much as possible before treatment.
2. Extensively processed timber: Retreat timber sawn lengthways, thicknessed, planed, ploughed, etc.
3. Surfaces exposed by minor cutting and/ or drilling: Treat with two flood coats of a solution recommended by main treatment solution manufacturer.

710 Reuse of timber sections/ wood components

1. Sections/ components scheduled to be removed but not reused in existing locations: Agree extent of retention for reuse elsewhere in the works. Confirm any extent with Conservation Officer.
    1.1. Treatment following removal: Cleaned and protected.
    1.2. Storage: Protect against damage, and store until required.
        1.2.1. Storage location: To be agreed, securely locked.
2. Reuse: Adapt sections/ components, as necessary, and install in agreed locations.

720 Temporary removal and reinstatement of fittings/ fixtures

1. Items to be removed, and reinstated on completion of repair work
    1.1. Identification: Attach labels or otherwise mark items using durable, non-permanent means, to identify location and refixing instructions, where applicable.
    1.2. Treatment following removal: Submit proposals
    1.3. Storage: Protect against damage, and store until required.
        1.3.1. Storage location: To be agreed, securely locked.
    1.4. Reinstatement: Refit in original locations using original installation methods.
2. Items unsuitable or not required for reuse: Obtain instructions regarding disposal.
3. Works should be carried out by an experienced conservation joiner – evidence to be provided for client approval prior to works commencing.
4. Powered screwdrivers should not be used to remove or insert screws in any of the historic elements.
5. All screws removed during dismantling should be kept for re-use.
6. All new fixings used should be appropriate to the age of the woodwork. This will usually mean that brass or stainless-steel slotted screws will have to be used.
7. All items should be photographically recorded prior to any work commencing.
8. Any dismantling carried out should be on the understanding that the items will be re-installed unless otherwise instructed. Dismantling should be carried out with minimum damage to the original elements. Preservation of original elements is more important than speed of dismantling.
9. Provide method statement when removing anything attached to bespoke joinery.

750 Cleaning dirty or stained wood

1. Generally: Scrub with neutral pH soap and clean, warm water and lightly sanded back.
2. Old varnish: Remove using mixture of turpentine (not turpentine substitute) and acetone in proportions or Industrial Methylated Spirits determined by experiment, followed by washing down. Protective coating will be need to be applied.
3. Method subject to validation by specialist subcontractor.

755 Lifting veneer

1. Lifting veneer to be ironed down. Specialist polisher subcontractor to ascertain what glue has been used in existing and use same glue to iron back down.

760 Fixing holes in veneer

1. Holes less than 100 sq cm to be patch repaired with new veneer to match existing. Method statement and sample repair to be provided for CA approval.
2. Holes less than 3-4mm to be filled with hard wax with colour to match existing (Konig, Briwax, Liberon or accepable equivalent).
3. Panels with holes greater than 100sq cm to be replaced with new panels to match existing.

780 Repair of distorted timber members

1. Generally: Repair to shape that member has assumed.

850 Glued joints

1. Adhesive: Specialist subcontractor to submit proposals
    1.1. Compatibility: Where relevant, obtain manufacturer's confirmation that adhesive is compatible with preservative/ fire-retardant treatment.
2. Glued structural components: Fabricated to BS 6446 in clean, controlled workshop conditions.
3. Anticipated equilibrium moisture content of timber in service: Specialist subcontractor to submit proposals

860 Moisture content checking

1. Procedure: Check moisture content of timber sections with an approved electrical moisture meter.
2. Test results: Keep records of all tests. If moisture content falls outside specified range, obtain instructions.

870 Moisture content testing

1. Procedure: Test timber sections with an electrical moisture meter with deep probes. (A meter that has been carefully calibrated against oven drying tests or otherwise guaranteed by an independent testing authority).
2. Test sample: Test 5% but not less than 10 lengths of each cross-section in the centre of the length.
3. Test results: 90% of values obtained to be within the specified range. Provide records of all tests.

Completion

910 Mechanically fastened joints

1. General: Inspect accessible bolted, coach screwed and timber pegged joints and tighten fasteners if necessary.
    1.1. Timing: On Completion and at end of Defects Liability Period or Rectification Period.

Ω End of Section

C90
Alterations - repair, refurbish, refit

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Descriptions

1. Location of alterations: As covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001 and as items as listed below.
2. Details of alterations: As covered in other work sections / drawings, internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001, interior design look and feel strategy and as items as listed below.

   Scope to be assessed by specialist at Stage 4 with benchmark samples to be agreed with conservation officer

115A Built-in clock to timber panelling (small committee room)

1. Restore and repair as specialist subcontractor recommendations.

115B Built in shelving to Mayors parlour / opposition leaders office

1. Restore and repair as specialist subcontractor recommendations.
2. Marble: Asburton marble to be cleaned, restored and repaired as specialist subcontractor recommendations and sections C40 and C41
3. Timber sliding doors: Repair as C51.
   - Clean as C51/750.
   - Lightly sand.
   - Finish as M60/161.
4. Aluminium trim: Clean, restore and repair as specialist subcontractor recommendations.

115C Signage / coat of arms to marble cladding behind podium

1. Clean as specialist subcontractor recommendations.

115D Foundation Stone built into wall finishes

1. Restore and repair as specialist subcontractor recommendations.

2. Stone: Stone to be cleaned, restored and repaired as specialist subcontractor recommendations and sections C40 and C41

115E Clock built into stone finish

1. Restore and repair as specialist subcontractor recommendations.
2. Stone: Stone to be cleaned, restored and repaired as specialist subcontractor recommendations and sections C40 and C41

115F Series of picture frames / plaques

1. Restore and repair as specialist subcontractor recommendations. Set aside for re-use, re-install in locations to be agreed with contract administrator.
2. Stone: Stone to be cleaned, restored and repaired as specialist subcontractor recommendations and sections C40 and C41

120 Employer's property

1. Components and materials arising from alterations that are to remain the property of the employer: All items unless otherwise instructed.
    1.1. Protection: Maintain items listed above until they are removed by the employer or reused in the works, or until the end of the contract.

130 Recycled materials

1. Materials arising from alterations: May be recycled or reused elsewhere in the project, subject to compliance with the appropriate specification and in accordance with any site waste management plan.
2. Evidence of compliance: Submit full details and supporting documentation.
    2.1. Verification: Allow adequate time in programme for verification of compliance.

Ω End of Section

E20
Formwork for in situ concrete

Generally/ preparation

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. To be read alongside structural requirements.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

120 Formwork details

1. Provide the following:
   - Panel joints - layout where exposed to view
   - Sealing methods - at panel joints, form tie holes and construction
   - Tie holes - layout where exposed to view
   - Surface of forms, form liners and other means of obtaining specified finish
   - Construction joints - positions and types

Construction

310 Accuracy

1. General requirement for formwork: Accurately and robustly constructed to produce finished concrete in the required positions and to the required dimensions.
2. Formed surfaces: Free from twist and bow (other than any required cambers).
3. Intersections, lines and angles: Square, plumb and true.

320 Joints in forms

1. Requirements including joints in form linings and between forms and completed work
   1.1. Prevent loss of grout, using seals where necessary.
   1.2. Prevent formation of steps. Secure formwork tight against adjacent concrete.

Striking - Not Used

Formed finishes

600 Samples of finishes available for inspection

1. Quality of finish: Special finish E20/630B
2. Location: Interdisciplinary Biomedical Research Building for the University of Warwick board marked concrete finish
3. Variations: None

605 Control samples (part of the finished work)

1. Quality of finish: Special finish E20/630A and E20/630B
2. Location: Obtain instructions.
3. Area (minimum): 1m x 1m. Refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.
4. Features to be included: All
5. Viewing distance (maximum): 2m.
6. Approval of appearance: Obtain before proceeding with remainder of the work.

610 Basic finish

1. Generally 'basic' finish to to concrete unformed surfaces (Refer to National Structural Concrete Specification Edition 4 (NSCS4) for definition as per BS EN 13670.)
2. Finish: Faces fully compacted and cover to reinforcement provided.
3. Surfaces to receive tanking / waterproofing: To suit waterproofing system requirements.

613 Ordinary finish

1. Generally 'ordinary' finish to to concrete formed surfaces (Refer to National Structural Concrete Specification Edition 4 (NSCS4)) for definition as per BS EN 13670.

   Generally 'ordinary' finish to concrete surfaces to receive linings or plaster coat. (Refer to National Structural Concrete Specification Edition 4 (NSCS4) for definition as per BS EN 13670.)
2. Finish: Faces fully compacted. Formed surfaces free from major blemishes and honeycombing. Steps at joints to be less than 5 mm.

620 Plain finish

1. Location: For exposed concrete soffits and as shown in wall finish drawings.
2. Finish: Even and dense. Arrange formwork panels in a regular pattern as a feature of the surface.
3. Permissible deviation of surfaces
   - 3.1. Sudden irregularities (maximum): 3 mm.
   - 3.2. Gradual irregularities (maximum): 3 mm, when measured from the underside of a 1 m straightedge, placed anywhere on surface.
4. Variations in colour
   - 4.1. Permitted: Those caused by impermeable formwork linings.
   - 4.2. Not permitted: Those caused by contamination or grout leakage.
5. Surface blemishes

5.1. Permitted: Blowholes less than 10 mm in diameter and at an agreed frequency.

5.2. Not permitted: Voids, honeycombing, segregation and other large defects.

6. Formwork tie holes: In a regular pattern and filled with matching mortar.

630A Special finish - Smooth

1. 'Special' finish to visual concrete areas such as structural columns and core wall above formwork datum. (Refer to National Structural Concrete Specification Edition 4 (NSCS4)) for definition as per BS EN 13670.
2. Location: Refer to Architect's Wall Finishes Drawings
3. Finish: Smooth and even. Formwork panels as large as practicable. Arrange in a regular pattern as a feature of the surface.
   3.1. Special requirements: No vertical joints to columns - allow for controlled recessed joint if required horizontally for day joint. Setting out to be agreed with architect.
4. Permissible deviation of surfaces
   4.1. Sudden irregularities (maximum): 3 mm.
   4.2. Gradual irregularities (maximum): 3 mm when measured from the underside of a 1 m straightedge, placed anywhere on surface.
5. Variations in colour
   5.1. Permitted: Those caused by impermeable formwork linings.
   5.2. Not permitted: Those caused by contamination, grout leakage and replacement of formwork panels.
6. Cover spacers: Do not use.
7. Surface blemishes
   7.1. Permitted: Blowholes less than 5 mm in diameter and at an agreed frequency.
   7.2. Not permitted: Voids, honeycombing, segregation and other defects.
8. Formwork tie holes: In a regular pattern, recessed with matching mortar - setting out drawings to be submitted prior to construction
9. Sample to be cast and agreed with architect as quality benchmark.

630B Special finish - Board-marked

1. 'Special' finish to core and main stair core to match benchmark as E20/600. (Refer to National Structural Concrete Specification Edition 4 (NSCS4)) for definition as per BS EN 13670.
2. Location: Refer to Architect's Wall Finishes Drawings
3. Proprietary lining: Board marked proprietary lining by Reckli or acceptable equivalent.
   3.1. Installation of lining: Securely to support formwork and jointed neatly
4. Finish: Boardmarked to proprietary lining. Formwork panels as large as practicable. Arrange in a regular pattern as a feature of the surface.
5. Permissible deviation of surfaces
   5.1. Sudden irregularities (maximum): 3 mm.
   5.2. Gradual irregularities (maximum): 3 mm when measured from the underside of a 1 m straightedge, placed anywhere on surface.
6. Variations in colour
   6.1. Permitted: Those caused by impermeable formwork linings.
   6.2. Not permitted: Those caused by contamination, grout leakage and replacement of formwork panels.

7. Cover spacers: Do not use.
8. Surface blemishes
   8.1. Permitted: Blowholes less than 5 mm in diameter and at an agreed frequency.
   8.2. Not permitted: Voids, honeycombing, segregation and other defects.
9. Formwork tie holes: In a regular pattern following the manufacturer's instructions. For adjacent panels, use formwork rotated through 180 degrees to avoid repeating patterns. Final proposals to be agreed upon with panel joints.
10. Sample to be cast and agreed with architect as quality benchmark.

Ω End of Section

F10
Brick/ block walling

Types of walling

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Clay facing brickwork - Brickwork

1. Description: Typical external leaf for brickwork upstand and ancillary buildings.
2. Bricks: To BS EN 771-1.
   Final choice of brick to be confirmed subject to sample panel approval with Planning Officer.
   - 2.1. Brick Type 1 (Upstand)
     - 2.1.1. Manufacturer: Ibstock or acceptable equivalent.
     - 2.1.2. Product reference: Atlas Smooth Blue
     - 2.1.3. Work size (length x width x height): 215 x 102 x 65mm
     - 2.1.4. Freeze thaw resistance / salt content: F2 / S2
     - 2.1.5. Tolerances: T2 / R1
   - 2.2. Brick Type 2 (Ancillary buildings)
     - 2.2.1. Manufacturer: Ibstock or acceptable equivalent.
     - 2.2.2. Product reference: Bradgate Harvest Antique (final brick choice subject to sample review).
     - 2.2.3. Work size (length x width x height): 215 x 102.5 x 65mm
     - 2.2.4. Freeze thaw resistance / salt content: F2 / S2
     - 2.2.5. Tolerances: T2 / R1
   - 2.3. Special shapes: To BS 4729 if required. Visible cut bricks not permitted.
3. Mortar: As section Z21.
   - 3.1. Standard: To BS EN 998-2
   - 3.2. Mix: As defined in PD6697 Table 15. Refer to clause 460. Attention should be given to the exposure ratings of the building in the selection of mortars and joint profile specified.
   - 3.3. Strength: Mortar strength to be confirmed by Structural Engineer above and below DPC.
   - 3.4. Additional requirements: Pigmented to compliment brick selection. Mortar colours to be confirmed following review of sample panel on site once brick products confirmed. Allow for 3 mortar colour tests per brick choice.

4. Bond: Upstand: Stretcher
   Ancillary buildings: English garden bond
   As indicated on external wall drawings - see 21-series.
5. Joints: Bucket handle. Movement joints as F30/610.
6. Other requirements: - All brickwork shall be designed to BS EN 1996-1-1, BS EN 1996-2, relevant National
   Annexes and PD 6697.
   - Brickwork design consequence class: Class 3 (PD 6697).
   - Level of exposure of brickwork to be established to PD 6697 and performance requirements established as per Table 15.

355A Concrete common blockwork - Paint-grade 100mm

1. Description: Single layer 100mm internal blockwork where painted block is exposed.
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: Lignacite or acceptable equivalent.
     - 2.1.1. Product reference: Lignacite Paint-grade 7.3N 100mm or acceptable equivalent.
   - 2.2. Configuration: Group 1
   - 2.3. Compressive strength
     - 2.3.1. Mean value: 7.3 N/mm² - structural engineer to confirm at next stage.
   - 2.4. Face grade: Paint-grade
   - 2.5. Density: 1570kg/m3
   - 2.6. Freeze/ thaw resistance: Frost-resistant
   - 2.7. Recycled content: Submit proposals.
   - 2.8. Work sizes (length x width x height): 440 x 100 x 215mm
     - 2.8.1. Tolerance category: D1
   - 2.9. Additional requirements: Intumescent mastic to deflection heads at top of blockwork walls.
3. Mortar: As section Z21.
   - 3.1. Standard: To BS EN 998-2
   - 3.2. Mix: Class M4. Mortar strength to be confirmed by structural engineer during next stage.
   - 3.3. Additional requirements: Bucket handle joint profile.
4. Bond: Half-lap stretcher.
5. Fire performance: 120 minute integrity and insulation. Refer to fire report and fire strategy plans.
6. Sound insulation: 47 Rw, dB (Paint finish), 46 Rw, dB (no finish)
7. Other requirements: Windposts and lintels as required to be confirmed by structural engineer during next stage.

355B Concrete common blockwork - Paint-grade 215mm

1. Description: 215mm single layer internal blockwork where painted block is exposed.
2. Blocks: To BS EN 771-3.
   - 2.1. Manufacturer: Lignacite or acceptable equivalent.
     - 2.1.1. Product reference: Lignacite Paint-grade 7.3N 100mm (laid flat) or acceptable equivalent.
   - 2.2. Configuration: Group 1
   - 2.3. Compressive strength

2.3.1. Mean value: 7.3 N/mm² - structural engineer to confirm.

2.4. Face grade: Paint-grade

2.5. Density: 1570kg/m3

2.6. Freeze/ thaw resistance: Frost-resistant

2.7. Recycled content: Submit proposals.

2.8. Work sizes (length x width x height): 440 x 215 x 100mm

2.8.1. Tolerance category: D1

2.9. Additional requirements: Intumescent mastic to deflection heads at top of blockwork walls.

3. Mortar: As section Z21.
   3.1. Standard: To BS EN 998-2
   3.2. Mix: Class M4. Mortar strength to be confirmed by Structural Engineer at next stage.
   3.3. Additional requirements: Bucket handle joint profile.
4. Bond: Half-lap stretcher.
5. Fire performance: 120 minute integrity and insulation. Refer to fire report and fire strategy plans.
6. Acoustic performance: 55Rw, dB (Paint finish)
7. Other requirements: Windposts and lintels as required to be confirmed by structural engineer at next stage.
   Contractor to conduct final checks of weight of blockwork in the core structure at stage 4

355C Concrete common blockwork - Paint-grade Thermal Lining

1. Description: Double leaf 100mm blockwork with insulation in cavity where painted block is exposed.
2. Blocks: To BS EN 771-3.
   2.1. Manufacturer: Lignacite or acceptable equivalent.
   2.1.1. Product reference: Lignacite Paint-grade 7.3N 100mm or acceptable equivalent.
   2.2. Configuration: Group 1
   2.3. Compressive strength
   2.3.1. Mean value: 7.3 N/mm² - structural engineer to confirm.
   2.4. Face grade: Paint-grade
   2.5. Density: 1570kg/m3
   2.6. Freeze/ thaw resistance: Frost-resistant
   2.7. Recycled content: Submit proposals.
   2.8. Work sizes (length x width x height): 440 x 100 x 215mm
   2.8.1. Tolerance category: D1
   2.9. Additional requirements: Intumescent mastic to deflection heads at top of blockwork walls.
3. Mortar: As section Z21.
   3.1. Standard: To BS EN 998-2
   3.2. Mix: Class M4. Mortar strength to be confirmed by Structural Engineer at next stage.
   3.3. Additional requirements: Bucket handle joint profile.
4. Bond: Half-lap stretcher.
5. Fire performance: 120 minute integrity and insulation. Refer to fire report and fire strategy plans.
6. U-value: 0.15W/m2K

7. Cavity insulation: 115mm Kingspan Kooltherm K106 with 10mm cavity.
8. Other requirements: Windposts and lintels as required to be confirmed by structural engineer.

Testing - Not Used

Workmanship generally

430 Conditioning of clay bricks and blocks

1. Bricks and blocks delivered warm from manufacturing process: Do not use until cold.
2. Absorbent bricks in warm weather: Wet to reduce suction. Do not soak.

440 Conditioning of concrete bricks/ blocks

1. Autoclaved concrete bricks/ blocks delivered warm from manufacturing process: Do not use.
2. Age of nonautoclaved concrete bricks/ blocks: Do not use until at least four weeks old.
3. Avoidance of suction in concrete bricks/ blocks: Do not wet.
   3.1. Use of water retaining mortar admixture: Submit details.

460 Mortar designations

1. Mix proportions: For a specified designation select a mix from the following:
   1.1. Designation (i) (BS EN 998-2 M12 equivalent)
      1.1.1.1:0-¼:3 (Portland cement:lime:sand with or without air entraining additive).
      1.1.2.1:3 (Portland cement:sand and air entraining additive).
   1.2. Designation (ii) (BS EN 998-2 class M6 equivalent)
      1.2.1.1:½:4-5 (Portland cement:lime:sand with or without air entraining additive).
      1.2.2.1:3 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.2.3.1:2½-3½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
      1.2.4.1:3-4 (Portland cement:sand and air entraining additive).
   1.3. Designation (iii) (BS EN 998-2 class M4 equivalent)
      1.3.1.1:1:5-6 (Portland cement:lime:sand with or without air entraining additive).
      1.3.2.1:3½-4 (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.3.3.1:4-5 (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
      1.3.4.1:5-6 (Portland cement:sand and air entraining additive).
   1.4. Designation (iv) (BS EN 998-2 class M2 equivalent)
      1.4.1.1:2:8-9 (Portland cement:lime:sand with or without air entraining additive).
      1.4.2.1:4½ (masonry cement:sand containing Portland cement and lime in approximate ratio 1:1, and an air entraining additive).
      1.4.3.1:5½-6½ (masonry cement:sand containing Portland cement and inorganic materials other than lime and air entraining additive).
      1.4.4.1:7-8 (Portland cement:sand and air entraining additive).
2. Batching: Mix proportions by volume.
3. Mortar type: Continuous throughout any one type of masonry work.

500 Laying generally

1. Mortar joints: Fill vertical joints. Lay bricks, solid and cellular blocks on a full bed.
2. AAC block thin mortar adhesive and gypsum block adhesive joints: Fill vertical joints. Lay blocks on a full bed.
3. Clay block joints
    3.1. Thin-layer mortar: Lay blocks on a full bed.
    3.2. Interlocking perpends: Butted.
4. Bond where not specified: Half-lap stretcher.
5. Vertical joints in brick and concrete block facework: Even widths. Plumb at every fifth cross joint.

520 Accuracy

1. Courses: Level and true to line.
2. Faces, angles and features: Plumb.
3. Permissible deviations
    3.1. Position in plan of any point in relation to the specified building reference line and/ or point at the same level: ± 10 mm.
    3.2. Straightness in any 5 m length: ± 5 mm.
    3.3. Verticality up to 3 m height: ± 10 mm.
    3.4. Verticality up to 7 m height: ± 14 mm.
    3.5. Overall thickness of walls: ± 10 mm.
    3.6. Level of bed joints up to 5 m (brick masonry): ± 11 mm.
    3.7. Level of bed joints up to 5 m (block masonry): ± 13 mm.

535 Height of lifts in walling using cement-gauged or hydraulic lime mortar

1. Quoins and advance work: Rack back.
2. Lift height (maximum): 1.2 m above any other part of work at any time.
3. Daily lift height (maximum): 1.5 m for any one leaf.

545 Levelling of separate leaves

1. Locations for equal levelling of cavity wall leaves: As follows:
    1.1. Every course containing vertical twist type ties or other rigid ties.
    1.2. Every third tie course for double triangle/ butterfly ties.
    1.3. Courses in which lintels are to be bedded.

560 Coursing brickwork

1. Gauge: Four brick courses including bed joints to 300 mm.

561 Coursing brickwork with existing

1. Gauge: Line up with existing brick courses.

580 Laying frogged bricks

1. Single frogged bricks: Frog uppermost.
2. Double frogged bricks: Larger frog uppermost.

3. Frog cavity: Fill with mortar.

595 Lintels

1. Bearing: Ensure full length masonry units occur immediately under lintel ends.

610 Support of existing work

1. Joint above inserted lintel or masonry: Fully consolidated with semidry mortar to support existing structure.

620 Block bonding new walls to existing

1. Pocket requirements: Formed as follows:
   1.1. Width: Full thickness of new wall.
   1.2. Depth (minimum): 100 mm.
   1.3. Vertical spacing
      1.3.1. Brick to brick: 4 courses high at 8 course centres.
      1.3.2. Block to block: Every other course.
2. Pocket joints: Fully filled with mortar.

635 Jointing

1. Profile: Consistent in appearance.

645 Accessible joints not exposed to view

1. Jointing: Struck flush as work proceeds.

665 Pointing

1. Joint preparation: Remove debris. Dampen surface.
2. Mortar: As section Z21.
   2.1. Standard: To BS EN 998-2
   2.2. Mix: As clause 110.
3. Profile: Flush

671 Fire-stopping

1. Avoidance of fire and smoke penetration: Fit tightly between cavity barriers and masonry. Leave no gaps.

690 Adverse weather

1. General: Do not use frozen materials or lay on frozen surfaces.
2. Air temperature requirements: Do not lay bricks/ blocks:
   2.1. In cement-gauged mortars when at or below 3°C and falling or unless it is at least 1°C and rising.
   2.2. In hydraulic lime:sand mortars when at or below 5°C and falling or below 3°C and rising, or as manufacturer's/ supplier's recommendations.
   2.3. In thin-layer mortars when outside the limits set by the mortar manufacturer.
3. Temperature of walling during curing: Above freezing until hardened.

4. Newly erected walling: Protect at all times from:
   4.1. Rain and snow.
   4.2. Drying out too rapidly in hot conditions and in drying winds.

Additional requirements for facework

710 The term facework

1. Definition: Applicable in this specification to brick/ block walling finished fair.
   1.1. Painted facework: The only requirement to be waived is that relating to colour.

730 Brick/ Concrete block samples

1. General: Before placing orders with suppliers submit for approval of appearance labelled samples of the following: all brick types.
2. Selection of samples: Representative of the range in variation of appearance.

740 Finished masonry work reference panels

1. General: Before proceeding to construct the following walling types, construct panels as specified. Give notice when panels are dry.
2. Panel types
   2.1. Walling type: All facing brick types and bonds. Refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.
      2.1.1. Location: On site
      2.1.2. Size: 1.5 x 1.5m nominally.
      2.1.3. Features to inclue: - Movement joint with sealant.
      - Weephole
      2.1.4. Other requirements: - Each reference panel should be constructed in accordance with British Standard Institute PAS 70. The contractor must request bricks for the construction of a reference panel to be supplied direct from the manufacturer.
      - All units supplied should be incorporated into the panel to ensure true representation of colour and finish. (Take note of the manufacturers instructions to assist with the construction of a site reference panel).
      - Each reference panel to be laid in the same bond, mortar colour and jointing intended for the building and to be accepted by the contract administrator before brickwork on site commences.
      -The reference panel should be positioned in a clean, well-lit area and be available for the duration of the contract.
      -A viewing distance of 3 metres must be allowed.
      -The manufacturer must be given the opportunity to view the reference panel before further work proceeds.
3. Timing: Allow sufficient time for drying and review of reference panel as well as second panel to pick up amendments where required (nominally four weeks).

750 Colour consistency of masonry units

1. Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.

3. Facing bricks should be blended on site from a minimum of three packs to ensure an even distribution of colour and texture variation.
4. Finished work: Free from patches, horizontal stripes and racking back marks.

755 Colour consistency of mortar

1. Colour range: Submit proposals of methods taken to ensure that units are of consistent and even appearance within deliveries.
2. Conformity: Check each delivery for consistency of appearance with previous deliveries and with approved reference panels; do not use if variation is excessive.
3. Finished work: To be visually consistent with adjacent facade and approved reference panels.

760 Appearance

1. Brick/ block selection: Do not use units with damaged faces or arrises.
2. Cut masonry units: Where cut faces or edges are exposed cut with table masonry saw.
3. Quality control: Lay masonry units to match relevant reference panels.
    3.1. Setting out: To produce satisfactory junctions and joints with built-in features and components.
    3.2. Coursing: Evenly spaced using gauge rods.
4. Lifts: Complete in one operation.
5. Methods of protecting facework: Submit proposals.

780 Ground level

1. Commencement of facework: Not less than 150 mm below finished level of adjoining ground or external works level.

790 Putlog scaffolding

1. Permitted provided mortar to match surrounding mortar so not visible in finished surface.

830 Cleanliness

1. Facework: Keep clean.
2. Mortar on facework: Allow to dry before removing with stiff bristled brush.
3. Removal of marks and stains: Rubbing not permitted.
4. Effloresence: Clean with dry brush - refer to brick manufacturer for advice.
5. Scaffold: Staining and debris from toe-board to be cleaned as scaffold is taken down.

Ω End of Section

F30
Accessories/ sundry items for brick/ block/ stone walling

Cavities

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.
4. Materials to meet non-combustible requirements as noted in preliminaries A71/202.

120 Cleanliness

1. Cavity base and faces, ties, insulation and exposed dpcs: Free from mortar and debris.

150 Full fill cavity insulation below DPC

1. Refer to EOC specification.
2. Insulation: Cellular glass insulation
   2.1. Product certification: Environmental Product Declaration (ISO 14025 and EN 15804): EPD-PCE-20150042-IBA1-DE.
3. Manufacturer: Foamglas or acceptable equivalent.
   3.1. Product reference: Foamglas Slab T3+ or acceptable equivalent.
4. Recycled content: ≥60%.
5. Face size (nominal length x width): Typical 600 x 450mm (cut to size as required).
6. Thickness (nominal): To suit cavity as shown on drawings.
7. Thermal conductivity: 0.036 W/(m·K)
8. Reaction to fire class: A1 to BS EN 13501-1
9. Compressive strength: ≥ 500 kPa.
10. Additional requirements: Suitable for use below DPC. Waterproofing layer membrane required as manufacturer recommendations to protect insulation from freeze/thaw cycle.
11. Placement: Continuous and free of mortar and debris. Fixing as per manufacturer recommendations.

180 Cavity closers - Openings

1. **Refer to EOC specification**

181 Cavity barriers - Fire compartments

1. **Refer to EOC specification.**

Reinforcing/ fixing accessories

251 Head restraint slip ties

1. Final product to be validated by contractor and design team during Stage 4 detailed design.
2. Manufacturer: ACS Stainless or acceptable equivalent.
   2.1. Product reference: ACS AHR or acceptable equivalent.
3. Material: Austenitic stainless steel.
4. Length: To suit blockwork dimension.
5. Additional requirements: To follow Structural Engineer requirements and allow for all deflection and tolerances.
   Installed as per manufacturer's recommendations.

255 Wind posts

1. General: Windpost requirements and coordination to be completed by Contractor and design team during Stage 4 detailed design.
2. Standard: To BS EN 1090-1
3. Manufacturer: Contractor to submit proposals for structural engineer approval.
4. Material: TBC
5. Sizes: TBC
6. Fixings (complete with washers and shims): To meet structural engineer requirements.
7. Additional requirements: As structural engineer requirements.

270 Meshwork joint reinforcement

1. Description: Any meshwork joint reinforcement requirements and coordination to be completed by Contractor and design team during Stage 4 detailed design.
2. Standard: To BS EN 845-3
3. Manufacturer: Ancon or acceptable equivalent
   3.1. Product reference: Submit proposals
4. Type: Welded wire ladder type
5. Material: Austenitic stainless steel - material/ coating reference R1 to BS EN 845-3
6. Width: Approximately 40-50 mm less in width than wall or leaf.
7. Placement: Lay on an even bed of mortar in a continuous strip with full laps at angles. Keep back 20 mm from face of external work, 12 mm back from face of internal work and finish joint to normal thickness.
   7.1. Lap length (minimum): To manufacturer's recommendations

282 General-purpose slip ties

1. Final product to be validated by contractor and design team during Stage 4 detailed design.
2. Manufacturer: ACS Stainless or acceptable equivalent.
   2.1. Product reference: 2400 Range Tie or acceptable equivalent.
3. Material: Austenitic stainless steel with debonding sleeve.

4. Length: To suit location as recommended by manufacturer.
5. Type: As recommended by manufacturer.
6. Additional requirements: To manufacturer's recommendations.

291 Special fixings

1. Description: To F31 copings / lintels.
2. Type: Submit proposals to specialist subcontractor design.
3. Material/ finish: To PD 6697, clause 5.3.2.
4. Performance: Of type, size, strength and number necessary to resist loads likely to occur during the life of the building, and prevent lateral displacement or pulling apart of construction.
5. Placement: Fill pockets with bedding mortar finished flush where exposed to view where precast unit.

Flexible damp-proof courses/ cavity trays

330 Damp-proof courses and site-formed cavity trays

1. **Refer to EOC specification**

Installation of dpcs/ cavity trays - Not Used

Joints

610A Movement joints with sealant - Brickwork

1. Refer to EOC specification.
2. Description: To external facing brickwork.
3. Joint preparation and sealant application: As section Z22.
4. Filler: Closed cell polyethylene foam
   - 4.1. Thickness: To match design width of joint.
   - 4.2. Manufacturer: Celltex Ltd or acceptable equivalent.
     - 4.2.1. Product reference: Texell 3 or acceptable equivalent
   - 4.3. Placement: Build in as work proceeds with no projections into cavities and to correct depth to receive sealant system.
5. Sealant
   - 5.1. Designation: ISO 11600-F-25LM
   - 5.2. Manufacturer: Carlisle Construction Materials Limited or acceptable equivalent
     - 5.2.1. Product reference: Arbosil 1090 or acceptable equivalent.
   - 5.3. Colour: To match adjacent mortar - varies subject to location.
   - 5.4. Additional requirements: 10 year warranty eg Arbo Arbomaster scheme. Provide sample within brickwork
     sample panel. Ensure preparation and installation are to manufacturer's recommendations.

610B Movement joints with sealant - Blockwork / Fire-rated masonry

1. Description: To blockwork / fire-rated masonry.
2. Joint preparation and sealant application: As section Z22.

3. Filler: Closed cell polyethylene foam.
   3.1. Thickness: To match design width of joint.
   3.2. Manufacturer: Celltex Ltd or acceptable equivalent.
      3.2.1. Product reference: Texell 3 or acceptable equivalent
   3.3. Placement: Build in as work proceeds with no projections into cavities and to correct depth to receive sealant system.
4. Sealant
   4.1. Designation: ISO 11600-F-25LM
   4.2. Manufacturer: Carlisle Construction Materials Limited or acceptable equivalent
      4.2.1. Product reference: Arbosil 1071 or acceptable equivalent.
   4.3. Colour: White
   4.4. Additional requirements: 10 year warranty eg Arbo Arbomaster scheme. Ensure preparation and installation are to manufacturer's recommendations.
5. Fire rating: To meet fire rating of wall - refer to fire report and fire strategy plans.

650 Pointing in flashings

1. Joint preparation: Free of debris and lightly wetted.
2. Pointing mortar: As for adjacent walling.
3. Placement: Fill joint and finish flush.

670 Head of non-loadbearing walls

1. Restraints: As clause 251.
   1.1. Fixing: Secure to soffit.
2. Joint filler: Submit proposals to meet fire and acoustic requirements and joint size / compressibility to meet deflection requirements and suit substrate.
   2.1. Placement: Full, no gaps.

Proprietary sills/ lintels/ copings/ dressings

735 Precast concrete lintels

1. General: Lintel requirements and coordination to be completed by Contractor and design team during Stage 4 detailed design.
2. Standard: To BS EN 845-2.
3. Manufacturer: TBC
   3.1. Product reference: TBC
4. Types: TBC
5. Sizes: TBC
6. Placement: Bed on mortar used for adjacent work.
7. Fire rating: To suit fire rating of blockwork wall.

755 Prefabricated steel lintels

1. General: Lintel requirements and coordination to be completed by Contractor and design team during Stage 4 detailed design.

2. Standard: To BS EN 845-2.
3. Manufacturer: TBC
   3.1. Product reference: TBC
4. Types: TBC
5. Material/ finish: Stainless steel.
6. Sizes: TBC
7. Placement: Bed on mortar used for adjacent work.

780 Coping system - Aluminium

1. Refer to EOC specification.
2. Manufacturer: Contractor to submit proposals.
3. Material/ finish: Aluminium. PPC finish as Z31. RAL colour TBC. To match GRC to roof of new building. Dark grey to ancillary builldings.
4. Material thickness (minimum): 3mm
5. Dimensions: As shown on drawings
6. Fixings : No visible fixings. To allow for all likely movement and loadings, all to manufacturer's design.
7. Other requirements: - Lightning protection to rear face to MEP specification.
   - Submit drawings to show setting out and typical details.
   - Modules set to masonry units and symmetrical on pre-formed corners.
   - Cloaked DPC to be integrated into system.
   - Flush joints with support plates.

Miscellaneous items - Not Used

Ω End of Section

F31
Precast concrete sills/ lintels/ copings/ features

Types of component

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Elements of the engineering design of the precast systems are beyond architectural expertise to validate, such elements are to be designed by a competent sub-contractor undertaking the works and are obliged to complete the design in accordance with applicable BS EN ISO and other standards as relevant. If third party approval is required for these elements over and above the duty of care of the subcontractors self-validation, the Client / appointing party should consider the need to appointment a third party Façade/Structural/Specialist Engineer with the necessary expertise to scrutinize the sub-contractor design.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

10 Information to be provided with tender

1. Submit the following particulars for precast design:
   - 1.1. Typical plan, section and elevation drawings at suitable scales.
   - 1.2. Typical detailed drawings at large scales, including all typical details and interfaces at openings and adjacent facade systems.
   - 1.3. Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes, including all precast elements.
   - 1.4. Certification, reports and calculations demonstrating compliance with specification of proposed system.
   - 1.5. Proposals for connections to and support from the support structure/ background.
   - 1.6. Proposals for additional support structure/ background to that shown on preliminary design drawings.
   - 1.7. Schedule of builders' work, special provisions and special attendance by others.
   - 1.8. Examples of standard documentation from which project quality plan will be prepared.
   - 1.9. Preliminary fabrication and installation method statements and programme.
   - 1.10. Proposals for replacing damaged or failed products.
   - 1.11. Areas of non-compliance with specification.

105 Replacement precast concrete copings (CC)

1. Description: Precast concrete copings to match existing.
2. Manufacturer: FP McCann or acceptable equivalent.
3. Performance: Refer to EOC specification.
4. Concrete: To match existing visually.
5. Conformity: To BS 8500-2 and the recommendations of BS 8500-1, Annex A.4 for the specified exposure class.
   5.1. Evidence: Submit third-party certification from a UKAS-accredited laboratory.
6. Exposure Class: Specialist subcontractor to submit proposals for client / facade consultant verification.
7. Reinforced components: Submit proposals for type of reinforcement and cover.
8. Support structure: Specialist subcontractor to submit proposals for client / facade consultant verification.

   Visually inspectable mechanical fixing restraint as required to warranty provider satisfaction
9. Other requirements: - Refer to detail drawings for design intent.
   - Include DPC laid beneath.
   - Sizes as indicated on drawings.
   - Joints to alight to mortar joints in masonry.
   - Corner pieces to be preformed.
   - Allow for post and wire bird deterrent by NBC Environment or acceptable equivalent to parapet copings and cornices. Detailed design and fixing to specialist subcontractor design.

106 Precast concrete sills (NB)

1. Description: New precast concrete sills.
2. Manufacturer: FP McCann or acceptable equivalent.
3. Performance: Refer to EOC specification.
4. Concrete: To match H92/111A visually.
5. Conformity: To BS 8500-2 and the recommendations of BS 8500-1, Annex A.4 for the specified exposure class.
   5.1. Evidence: Submit third-party certification from a UKAS-accredited laboratory.
6. Exposure Class: Specialist subcontractor to submit proposals for client / facade consultant verification.
7. Reinforced components: Submit proposals for type of reinforcement and cover.
8. Support structure: Specialist subcontractor to submit proposals for client / facade consultant verification.

   Visually inspectable mechanical fixing restraint as required to warranty provider satisfaction
9. Other requirements: - Refer to detail drawings for design intent.
   - Include DPC laid beneath.
   - Sizes as indicated on drawings.
   - Joints to alight to mortar joints in masonry.
   - Corner pieces to be preformed.

General requirements

205 Design

1. Precast systems and associated features: Complete detailed design in accordance with this specification and the preliminary design drawings and submit before commencement of fabrication.
2. Related works: Coordinate in detailed design.

206 Design proposals

1. Submission of alternative proposals: Preliminary design drawings indicate intent. Other reasonable proposals will be considered.

207 Information to be provided during detailed design

1. In addition to the tender requirements as clause 10 submit the following precast particulars. Also refer to architectural preliminaries Contractor Submittals section A70.
    1.1. A schedule of detailed drawings and dates for submission for comment.
        1.1.1. Detailed drawings to cover all elevations and details at a suitable scale.
    1.2. A schedule of loads that will be transmitted from the rainscreen cladding to the structure.
    1.3. Proposed fixing details and systems relevant to the structural design and construction with methods of adjustment and tolerances.
    1.4. A schedule of fabrication tolerances/ size tolerances.
    1.5. A detailed testing programme in compliance with the main contract master programme.
    1.6. A detailed fabrication and installation programme in compliance with the main contract master programme.
    1.7. A detailed testing, fabrication and installation programme in compliance with main contract master programme.
    1.8. Proposals to support outstanding applications for Building Regulations consents or relaxations.

208 Quality plan

1. Requirement: Submit during detailed design.
2. Content: In accordance with BS EN ISO 9001 and including the following:
    2.1. Name of the quality manager.
    2.2. Quality assessment procedures.
    2.3. Inspection procedures to be adopted in checking the work.
    2.4. A sample and testing plan.
    2.5. Stages at which check lists will be used and samples of those lists.
    2.6. List of work procedures on the correct use of materials or components, both off site and on site.
    2.7. List of product information with latest revisions.
    2.8. Subcontractors involved in the work.
    2.9. Subcontractor's quality plans.
    2.10. Storage handling, transport and protection procedures.
    2.11. Procedure for registering and reporting non compliances.
    2.12. Maintenance procedures and calibration records.

2.13. Certification that completed work complies with specification.

2.14. Check list register to ensure all items have been inspected and non compliances discharged.

209 Information to be provided before commencement of manufacture of cladding panels

1. Submit the following precast particulars
   1.1. Detailed drawings to fully describe fabrication and installation.
   1.2. Labelled samples that represent the range of variation in panel finish, to confirm appearance and for final approval.
   1.3. Detailed calculations to prove compliance with all design/ performance requirements.
   1.4. Project-specific fabrication, handling and installation method statements.
   1.5. Recommendations for spare parts for future repairs or replacements.
   1.6. Recommendations for safe dismantling and recycling or disposal of all products.

210 Moulds

1. Permissible fabrication and operating tolerances: Length 0 to +6 mm, other dimensions ±3 mm.

220 Concrete generally

1. Specification: To BS 8500-2 and BS EN 206.
2. Producer: Accredited to BS 8500-2 requirements where product conformity certification is required.

250 Reinforcement

1. Carbon steel reinforcement: As appropriate to BS 4449, BS 4482 and BS 4483.
   1.1. Cutting and bending: To BS 8666.
2. Galvanized reinforcement: Galvanized to BS EN ISO 1461 after cutting. Chromate treated.
3. Stainless steel reinforcement: To BS 6744.
   3.1. Designation 1.4301.
   3.2. Cutting and bending: To BS 8666.
4. Non-structural reinforcement: Include to resist shrinkage and handling stresses.
5. Bimetallic corrosion and staining: Prevent by appropriate selection and use of materials.
6. Condition at time of placement: Clean, free of corrosive pitting, loose materials and substances that adversely affect reinforcement, concrete, or bond between the two.
7. Fixing: Accurate and secure.
   7.1. Method: Wire tying, approved steel clips or tack welding if permitted.
   7.2. Concrete cover: Maintain free of all tying wire or clips.

255 Quality assurance of reinforcement

1. Reinforcement to BS 4449, BS 4483 and BS 6744: Obtain valid certificates of approval for product conformity issued by the UK Certification Authority for Reinforcing Steels.

260 Casting and curing

1. Placing of concrete: Thoroughly compact.

2. Protection against drying out: Methods and duration to BS EN 13369.
3. Immature components: Avoid movement, vibration, overloading, physical shock, rapid cooling and thermal shock.
4. Delivery to site: Minimum 14 days after casting.

261 Cutting

1. Cutting of precast concrete components: Not permitted.

262 Records

1. Records for each type of component: Maintain details including:
   1.1. Unique identification number.
   1.2. Identification of the producer.
   1.3. Identification of the place of production.
   1.4. Correlation with records of mixes, including batch numbers.
   1.5. Date of each stage of manufacture.
   1.6. Dates and results of all tests, checks and inspections, including certification where relevant.
   1.7. Dimensions related to specified levels of accuracy.
   1.8. Specific location in the finished work.
   1.9. Weight of the unit.
   1.10. Damage and making good.
   1.11. Any other pertinent data, e.g. if unit is a production control unit.
2. Availability of records for inspection: On request.

Fair-faced components

310 Control samples

1. Required samples: After finalization of design, one each of the following components:
   1.1. 1m length of coping.
2. Approval of appearance: Obtain before manufacture of remaining units.
3. Identification and storage location: Clearly label and retain at factory for comparison with production units.

320 Details of samples

1. Submittals after approval of appearance and before manufacture of production units
   1.1. Aggregates: Confirm type, maximum size, grading and source.
2. Conformity of designed concrete: Evidence of compliance for compressive strength class and limiting values of composition.

330 Mixes for visible faced components

1. Constituent materials and mix design for each finish type: To remain constant.
2. Colour and appearance of each finish type: To remain constant.
3. Aggregates: To BS EN 12620.
   3.1. Origin: Single source for each finish type, having sufficient quantity for whole contract.

341 Conditions for separate facing and backing mixes

1. Difference in cement content: Not greater than 80 kg/m³.
2. Thickness of facing mix: 10 mm greater than maximum aggregate size, minimum 25 mm.
3. Location of reinforcement: Minimum 20 mm away from the interface between mixes.
4. Compaction of facing and backing mix: Carry out to create monolithic construction.

350 Quality of finishes

1. Appearance standard: As established by samples.

365 Cover on exposed aggregate faces

1. Nominal cover: Exclusive of aggregate projection.

370 Cover on visible faces

1. Spacers: Not permitted.
2. Proposed method statement: Submit.

380 Consistency of production methods

1. Production methods: To remain consistent for each matching type of finish.
2. Finish appearance: To remain within the range of variation indicated by the samples
   2.1. submitted.
3. Changes to production methods: If variations are proposed for components of the same finish, submit evidence that there will be no difference in appearance.

390 Inspection

1. Completed components: Give notice when ready to be inspected at factory.

Installation

420 Laying

1. Mortar for bedding and jointing: As section Z21.
   1.1. Type: To specialist subcontractor design.
   1.2. Mix: To specialist subcontractor design.
   1.3. Packing: If required use slate.
2. Bedding components: On full bed of mortar.
3. Removal of marks, stains and extraneous mortar on visible faces: Rubbing not permitted.

425 Manufacturing accuracy

1. Standard: In accordance with BS 8297, Table 6 and to allow compliance with clause 630.

630 Accuracy of erection

1. Supporting structure: Before commencing installation of precast panels, carry out survey sufficient to verify that required accuracy of erection can be achieved.
   1.1. Give notice: If the structure will not allow the required accuracy or security of erection.
2. Joint centres: Set out to ensure consistent joint widths.

3. Joint width: Within the length of any joint, including those interrupted by transverse joints, to vary by not more than 25% of nominal joint width.
   3.1. Variations: Evenly distributed with no sudden changed.
   3.2. General: Within recommendations of joint sealant of baffle manufacturer.
4. In-line edges in elevation: Deviation across transverse joint to vary by not more than 15% of nominal joint width.
5. Flat faces of adjacent panels: Offset in plan or section across any joint to vary by not more than 15% of nominal joint width.
6. Finished appearance: Notwithstanding tolerances stated above and in clause 425, panels must be square, regular, true to line, level and plane with a satisfactory fit at junctions.

Ω End of Section

G10
Structural steel framing

General requirements/ information

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

112 Contractor’s design

1. Description: Steel Framing System (SFS)
2. Design responsibility: Design and detail members and joints to suit the conceptual layout detailed in the contract drawings.
   2.1. Other responsibilities: All elements associated with Steel Framing System.
3. Structural requirements
   3.1. Generally: Refer to Structural Engineer's information and specification.
   3.2. Design: Complete in accordance with the designated code of practice to satisfy specified performance criteria.
   3.3. Connections: Design and detail joints to designated code of practice
   3.4. Fixings to foundations and walls: Design and detail fixings to concrete to designated code of practice
4. Design and production information: As Preliminaries section A31 and clause G10/123.
5. Contractor’s/ Subcontractor’s Design – responsibility for completing the design of the work in this section is with the Contractor, who may pass it on to a subcontractor, and requires the Contractor or subcontractor to complete the design and detailing.

123 Drawings and calculations prepared by Contractor

1. Information required: To Structural Engineer's requirements.
2. General arrangement drawings: Submit before preparing calculations. Clearly identify:
   2.1. Individual steel members.
   2.2. Conflicts with other work.
   2.3. Proposed changes to contract drawings.

3. Member and joint calculations: Submit before preparing fabrication drawings.

125 Specification standard

1. Standard: Comply with latest edition of National Structural Steelwork Specification (NSSS).
   1.1. Additional requirements: To Structural Engineer's requirements.
   1.2. Document availability: For the duration of the work, at fabrication shop and on site.
2. References to Engineer in NSSS: For the purpose of this contract, interpret such references as being to the person named in the Preliminaries as Consulting Structural Engineer.

Frame systems

150 Steel framing system

1. Description: Insulated lightweight steel frame system (SFS) to subcontractor's design. Refer to wall types drawing for different buildup types.

   Refer to EOC specification for full details.
2. General: Nominal 150mm widths as shown on drawings (gauge TBC by specialist) to be confirmed by Specialist sub-contractor.
   Stud sizings/Spacing to be confirmed by Specialist sub-contractor.
   Components to Specialist Sub-Contractor's Design.
3. Performance requirements: Refer to EOC specification.
4. Component
   4.1. Breather membrane: Refer to EOC specification.
   4.2. Sheathing board: Refer to EOC specification.
   4.3. Insulation:
      4.3.1. Between studs: Refer to EOC specification.
      4.3.2. External insulation: Refer to EOC specification.
   4.4. Vapour control layer: Refer to EOC specification.
   4.5. Internal lining: As K10/155A, K10/155B and K10/155C subject to location.
      4.5.1. Fixing: To manufacturer recommendations
      4.5.2. Boarding installation: Stagger all board joints between layers and opposing faces
      4.5.3. Other: Refer to clause 450.
5. Other requirements: - Pattressing where required to external walls to be non-combustible - Cementitious / dense gypsum based boards or equivalent (attention to be given regarding limitations for fixings and loadings where in lieu of but inferior to plywood).
   - Defection heads: Interface membrane (EPDM-like) to provide weathertight / airtight seal to BS EN 13501-1 Class B-s1,d0 or better.
   - Allow for increased galvanised coating to areas within 150mm of ground floor, recessed balconies and other areas in close proximity to wet areas. Factory applied galvanising to achieve a design life of 60 years - galvanised to 600g/m2.
   - SFS tracks and studs are to be offset from intumescent painted steel in all instances to prevent intumescent paint expansion zones being restricted.
   - Breaks in SFS tracks may be required to high performance acoustic walls whist maintaining fire performance. Partitions shall be built to face of sheathing board to prevent flanking. Work sequencing to be reviewed with contractor.

Cold-formed materials - Not Used

Fabrication

180 Notification of commencement

1. Notice: Give notice before fabrication is due to start.
    1.1. Period of notice (minimum): Five working days

190 Marking

1. Identifying and recording materials and components: Submit details of proposed methods.
2. Location of marks
    2.1. Generally: Visible for checking after erection.
    2.2. Weathering steel: On surfaces not exposed to open view in the completed work.
3. Steel to be blast cleaned, pickled, metal sprayed or galvanized: Marked so that subsequent treatment cannot obliterate the marking.

195 Hard stamping

1. Usage: Not permitted except as indicated on drawings.

225 Steelwork to be galvanized

1. Cutting, drilling and shop welding: Complete before galvanizing.
2. Vent and drain holes: Provide as necessary.
    2.1. Locations: Submit proposals.
    2.2. Sealing: Submit proposals.

Welding - Not Used

Bolt assemblies - Not Used

Erection

405 Outline method of erection

1. Documentation: Provide Erection method statement in accordance with NSSS

410 Pre-erection checks

1. Scope: At least 7 days before proposed erection start date, check the following:
    1.1. Foundations and other structures to which steelwork will be attached: Accuracy of setting out.
    1.2. Holding down bolts: Position, protruding length, slackness and condition.
2. Inaccuracies and defects: Report without delay.
3. Permission to commence erection: Obtain.

420 Setting out

1. Permissible deviations: In addition to the requirements of the NSSS, add permissible deviations for different types of dimension and locations, as necessary.

425 Modifications

1. Steelwork: Do not modify without approval.
2. Temporary fabrication/ erection attachments: May remain when they will not interfere with subsequent work, and will be completely hidden by finishes; otherwise, remove.

Testing - Not Used

Protective coatings - Not Used

Protective coating systems - Not Used

Preparation for painting - Not Used

Painting - Not Used

Ω End of Section

H11
Curtain walling

Tendering

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
3. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

010 Information to be provided with tender by subcontractor

1. Submit the following curtain walling particulars
   - 1.1. Evidence of compliance: All curtain walling to be CE marked to BS EN 13830. Submit Declaration of Performance (DoP). CE marking and Declaration of Performance (DoP) requirements for structural sealant glazing to be submitted on the basis of a manufacturer's European Technical assessment (ETA) prepared in accordance with EOTA technical guide ETAG 002 (Parts 1, 2 and 3).
   - 1.2. Typical plan, section and elevation drawings at suitable scales.
   - 1.3. Typical detailed drawings at large scales, including all interfaces.
   - 1.4. Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes, including EPDMS, external finishes.
   - 1.5. Certification, reports and calculations demonstrating compliance with specification of proposed curtain walling.
   - 1.6. Proposals for connections to and support from the building structure and building components.
   - 1.7. Proposals for amendments to primary supporting structure and for secondary supporting structure additional to that shown on preliminary design drawings.
   - 1.8. Schedule of builder's work, special provisions and special attendance by others.
   - 1.9. Examples of standard documentation from which project quality plan will be prepared.
   - 1.10. Preliminary fabrication and installation method statements and programme.
   - 1.11. Schedule of products and finishes with a design life expectancy less than that specified in clause 440, with proposals for frequencies and methods of replacement.
   - 1.12. Proposals for replacing damaged or failed products.
   - 1.13. Areas of non-compliance with the specification.

1.14. EPDs for all associated products or justified engineering estimates based on benchmark data.

Types of curtain walling

110 Stick curtain walling systems (NB)

1. Description: Stick system pressure equalised mullion drained curtain wall system.
2. Curtain walling system
   - 2.1. Manufacturer: Schueco UK Ltd or acceptable equivalent.
     - 2.1.1. Product reference: Stick curtain walling façade system - FWS50or acceptable equivalent. Refer to EOC specification for full details.
   - 2.2. Framing
     - 2.2.1. Frame members: Aluminium curtain wall frame sections.
     - 2.2.2. Finish: PPC as Z31. Colour TBC
     - 2.2.3. External cover cap: Square edge cap as manufacturer standard.
   - 2.3. Glazing details: Refer to EOC specification for details.
     - 2.3.1. Manifestation: As clause 738.
   - 2.4. Incorporated components: - PPC sill flashing to base of curtain walling as per architects drawings.
     - PPC flashing to sides and head of curtain walling system as per Architects drawings.
     - Allow for birch ply window reveals (incl. head and sill) internally as K13/160A.
   - 2.5. System accessories: As recommended by manufacturer.
   - 2.6. Installation: All Schueco UK Limited products are to be installed in complete accordance with the information published by Schueco and exclusively by Schueco UK Limited authorised fabricators.

111 Stick curtain walling systems (CC)

1. Description: Stick system pressure equalised mullion drained curtain wall system. **Note this is current preferred - refer to H11/112 for alternative steel option for costing only.**
2. Curtain walling system
   - 2.1. Manufacturer: Schueco or acceptable equivalent.
     - 2.1.1. Product reference: Schueco AOC facade system 50 (Add-on Construction) or acceptable equivalent. Refer to EOC specification for full details.
   - 2.2. Framing
     - 2.2.1. Frame members: Aluminium curtain wall frame sections with steel add-on construction.
     - 2.2.2. Finish: Anodised aluminium - silver to match existing. Final finish to be confirmed through sampling.
     - 2.2.3. External cover cap: Bespoke anodised aluminium capping profiles to match existing.
   - 2.3. Glazing details: Refer to EOC specification for details.
     - 2.3.1. Manifestation: As clause 738.
     - 2.3.2. Opaque / frosted areas: Allow for opaque / frosted film to areas - refer to -31 series drawings for locations. Ensure compliance with glass to prevent thermal stress and failure. Refer to EOC for performance specifications.
   - 2.4. Spandrel panels: Back painted glass as EOC specification.
   - 2.5. Incorporated components: Bespoke anodised aluminium sill flashing to base of curtain walling as per architects drawings.

2.6. System accessories: As recommended by manufacturer.

2.7. Installation: As manufacturer recommendations.

112 Stick curtain walling systems - Steel option for costing (CC)

1. Description: Stick system pressure equalised mullion drained curtain wall system. **Alternative steel option for costing only - refer to H11/111 for current preferred aluminium option.**
2. Curtain walling system
   2.1. Manufacturer: Jansen or acceptable equivalent.
      2.1.1. Product reference: VISS 50 iXtra or acceptable equivalent. Refer to EOC specification for full details.
   2.2. Framing
      2.2.1. Frame members: Steel curtain wall frame sections.
      2.2.2. Finish: Anodised aluminium - silver to match existing. Final finish to be confirmed through sampling.
      2.2.3. External cover cap: Bespoke anodised aluminium capping profile to match existing.
   2.3. Glazing details: Refer to EOC specification for details.
      2.3.1. Manifestation: As clause 738.
      2.3.2. Opaque / frosted areas: Allow for opaque / frosted film to areas - refer to -31 series drawings for locations. Ensure compliance with glass to prevent thermal stress and failure. Refer to EOC for performance specifications.
   2.4. Spandrel panels: Back painted glass as EOC specification.
   2.5. Incorporated components: - Bespoke anodised aluminium sill flashing to base of curtain walling as per architects drawings.
   2.6. System accessories: As recommended by manufacturer.
   2.7. Installation: As manufacturer recommendations.

113 Stick curtain walling systems - Fire rated (CC)

1. Description: Fire rated stick system pressure equalised mullion drained curtain wall system (EI 60). Refer to fire strategy drawings and fire report for locations.
2. Curtain walling system
   2.1. Manufacturer: Secco Sistemi or acceptable equivalent.
      2.1.1. Product reference: 4F AF or acceptable equivalent. Refer to EOC specification for full details.
   2.2. Framing
      2.2.1. Frame members: Steel curtain wall frame sections.
      2.2.2. Finish: Galvanised finish with PPC to match adjacent curtain walling. Final finish to be confirmed through sampling.
      2.2.3. External cover cap: Square edge cap as manufacturer standard.
   2.3. Glazing details: Refer to EOC specification for details.
      2.3.1. Manifestation: As clause 738.
      2.3.2. Opaque / frosted areas: Allow for opaque / frosted film to areas - refer to -31 series drawings for locations. Ensure compliance with glass to prevent thermal stress and failure. Refer to EOC for performance specifications.

2.4. Incorporated components: - PPC sill flashing to base of curtain walling as per architects drawings.
- PPC flashing to sides and head of curtain walling system as per Architects drawings.

2.5. System accessories: As recommended by manufacturer.

2.6. Installation: As manufacturer recommendations.

General requirements/ preparatory work

210 Design

1. Curtain walling and associated features: Complete the detailed design. Submit before commencement of fabrication.
2. Related works: Coordinate in the detailed design.

220 Specification

1. Compliance standards: BS EN 13830 and The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
Building Regulations of England and Wales.
Ciria glazing at height.
2. Reference information: For the duration of the contract, keep available at the design office, workshop and on site copies of:
   2.1. The CWCT 'Standard for systemised building envelopes'.
   2.2. Publications invoked by the CWCT 'Standard for systemised building envelopes'.

230 Information to be provided during detailed design stage

1. Submit the following curtain walling particulars
   1.1. A schedule of detailed drawings and dates for submission for comment.
   1.2. A schedule of loads that will be transmitted from the curtain walling to the structure.
   1.3. Proposed fixing anchor details relevant to structural design and construction.
   1.4. A detailed testing programme in compliance with the main contract master programme.
   1.5. A detailed fabrication and installation programme in compliance with the main contract master programme.
   1.6. Proposals to support outstanding applications for Building Regulation consents or relaxations.

232 Quality plan

1. Requirement: Submit during detailed design.
2. Content: In accordance with BS EN ISO 9001 and including the following:
   2.1. Name of the quality manager.
   2.2. Quality assessment procedures.
   2.3. Inspection procedures to be adopted in checking the work.
   2.4. Stages at which check lists will be used and samples of the lists.
   2.5. List of work procedures on the correct use of materials or components, both off site and on site.
   2.6. List of product information with latest revisions.
   2.7. Subcontractors involved in the work.

2.8. Subcontractors' quality plans.

2.9. Storage, handling, transport and protection procedures.

2.10. Procedure for registering and reporting non compliances.

2.11. Maintenance procedures and calibration records.

2.12. Certification that completed work complies with specification.

2.13. Check list register to ensure all items have been inspected and non compliances discharged.

235 Information to be provided before commencement testing or fabrication of curtain walling

1. Submit the following curtain walling particulars
   1.1. Detailed drawings to fully describe fabrication and installation.
   1.2. Detailed calculations to prove compliance with design/ performance requirements.
   1.3. Project specific fabrication, handling and installation method statements.
2. Certification for incorporated components manufactured by others confirming their suitability for proposed locations in the curtain walling.
   2.1. Recommendations for spare parts for future repairs or replacements.
3. Recommendations for safe dismantling and recycling or disposal of products.

250 Product samples

1. General: Before commencing detailed design, submit labelled samples of: glazing, spandrel panel and frame. Refer to sample and mockups schedule (HCC-HBA-XX-XX-SH-A-310000) .

260 Samples of fixings

1. General: During detailed design, submit labelled samples of each type of fixing anchor, including casting-in restraints and shims, together with manufacturers' recommended torque figures.

270 Fabrication samples

1. General: During detailed design, submit samples of: glazing and frame. Refer to sample and mockups schedule (HCC-HBA-XX-XX-SH-A-310000) .
   1.1. Obtain approval of appearance before proceeding.

280 Mock-Up

1. General: Construct during detailed design work in an approved location. Obtain approval of appearance before proceeding. Retain undisturbed until completion of curtain walling installation.
2. Extent: Refer to sample and mockups schedule (HCC-HBA-XX-XX-SH-A-310000)
3. Purpose: To serve as an installation reference panel.

Design/ performance requirements

300 General

1. Refer to EOC specification for full details.

Breeam performance requirements - Not Used

Testing

500 Testing generally

1. Refer to EOC specification for full details.

Products

700 Generally

1. Refer to EOC specification for full details.

738 Manifestation

1. Standard: Shall be provided to all curtain walling, windows, doors as required by Approved Document K.
2. Technique: Post-applied film
3. Pattern: Allow for bespoke pattern to be designed at next stage.
4. Other requirements: Ensure compliance with glass to prevent thermal stress and failure. Refer to EOC for performance specifications.

Finishes

840 Anodizing

1. Requirement: As section Z33 and EOC specification.

Fabrication and installation

910 Generally

1. Refer to EOC specification for full details.
2. Electrolytic corrosion: Prevent. Submit proposed methods.
3. Fixings: Concealed unless indicated on detailed drawings. Where exposed they must match material and finish of the products fixed.
4. Fabrication: Machine cut and drill products in the workshop wherever possible.
5. Identification of products: Mark or tag to facilitate identification during assembly, handling, storage and installation. Do not mark surfaces visible in the completed installation.

912 Metalwork

1. Requirement: As section Z11 and EOC specfication, unless specified otherwise in this section.

917 Fixings/ Adhesives application

1. Requirement: As section Z20 and EOC specification, unless specified otherwise in this section.

920 Sealant application

1. Requirement: As section Z22 and EOC specification, unless specified otherwise in this section.

930 Assembly

1. General: Carry out as much assembly as possible in the workshop.
2. Joints (other than movement joints): Rigidly secured, reinforced where necessary and fixed with hairline abutments.
3. Displacement of components in assembled units: Submit proposals for reassembly on site.

965 Preliminary curtain walling installation

1. Requirement: Complete an area for inspection and approval of appearance as follows: one structural bay, location to be agreed with client representative.

982 Ironmongery

1. Assembly and fixing: Accurately, using fasteners with matching finish supplied by ironmongery manufacturer.
2. Completion: Check, adjust and lubricate as necessary to ensure correct functioning.

985 Maintenance

1. Maintenance manual: Incorporate details within the Building Manual in accordance with CWCT 'Standard for systemised building envelopes' clause 7.6.1.
    1.1. Materials certification and test reports to be included: All relevant documentation. Complete and hand over to the main contractor on completion of the installation.

Ω End of Section

H92
Rainscreen cladding

Tendering

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
3. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
4. Elements of the engineering design of the rainscreen systems are beyond architectural expertise to validate, such elements are to be designed by a competent sub-contractor undertaking the works and are obliged to complete the design in accordance with applicable BS EN ISO and CWCT codes as relevant. If third party approval is required for these elements over and above the duty of care of the subcontractors self-validation, the Client / appointing party should consider the need to appointment a third party Façade/Structural/Specialist Engineer with the necessary expertise to scrutinize the sub-contractor design.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

10 Information to be provided with tender by subcontractor

1. Submit the following cladding particulars
   - 1.1. Typical plan, section and elevation drawings at suitable scales.
   - 1.2. Typical detailed drawings at large scales, including all typical details and interfaces at openings and adjacent facade systems.
   - 1.3. Technical information and certification demonstrating compliance with specification of proposed incorporated products and finishes, including all rainscreen cladding elements.
   - 1.4. Certification, reports and calculations demonstrating compliance with specification of proposed cladding.
   - 1.5. Proposals for connections to and support from the primary support structure.
   - 1.6. Proposals for primary support structure additional to that shown on preliminary design drawings.
   - 1.7. Schedule of builders' work, special provisions and special attendance by others.
   - 1.8. Examples of standard documentation from which project quality plan will be prepared.
   - 1.9. Preliminary fabrication and installation method statements and programme.
   - 1.10. Proposals for replacing damaged or failed products.
   - 1.11. Areas of non-compliance with specification.

Type(s) of rainscreen cladding

110A Rainscreen cladding - GRC General (CC)

1. Description: GRC rainscreen cladding system on proprietary support frame. Refer to EOC specification for full details.
2. Primary support structure: Varies subject to location - concrete frame / brickwork. Refer to architect drawings for locations.

   Repair required to backing structure – blockwork / brickwork / insitu concrete prior to GRC installation as recommended by specialist subcontractor.
3. Rainscreen cladding system
   - 3.1. Type: Drained and back-ventilated
   - 3.2. Requirement: Include products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to comply EOC specification.
   - 3.3. Design/ performance requirements: All subsections within specification and the preliminaries A-section.
4. Rainscreen panel
   - 4.1. Type: GRC rainscreen cladding panels.
   - 4.2. Material: GRC
   - 4.3. Thickness: As determined by performance requirements.
   - 4.4. Profile: As shown in detail drawings. Allow for all exposed corners to be cast with 60mm returns.
   - 4.5. Finish/ colour: To match existing - samples to be provided for signoff with conservation officer and employer representative.
   - 4.6. Panel fixing system: No visible fixings - detail design to be developed by specialist subcontractor.
   - 4.7. Joint type: Open
5. Air gap: Not less than 50mm.
6. Backing wall: Varies subject to location - concrete frame / brickwork. Refer to architect drawings for locations.
   - 6.1. Thermal insulation: Refer to EOC specification.
   - 6.2. Air and vapour control layer: Refer to EOC specification.
   - 6.3. Breather membrane: Refer to EOC specification.
7. Accessories: All flashings etc. to match existing and as shown in drawings.
   Precast coping as F31/105.
   Cavity barriers and fire stops to EOC specification.
   Allow for post and wire bird deterrent by NBC Environment or acceptable equivalent to parapet copings and cornices. Detailed design and fixing to specialist subcontractor design.
8. Incorporated components: Windows and opening elements as shown in drawings.

   Civic centre attic windows as L10/311 with external and internal GRC fins / reveals to match existing.

   Allow for 60mm returns to window heads as shown in details.

   GRC coping to existing cornice refer to -21 series for detail.

9. Other requirements: Joints to match existing setting out - contractor to carry out survey prior to removal.

110B Rainscreen cladding - GRC Plant (CC)

1. Description: GRC rainscreen cladding system on proprietary support frame. Refer to EOC specification for full details.
2. Primary support structure: Varies subject to location - concrete frame / brickwork. Refer to architect drawings for locations.

   Repair required to backing structure – blockwork / brickwork / insitu concrete prior to GRC installation as recommended by specialist subcontractor.
3. Rainscreen cladding system
   - 3.1. Type: Drained and back-ventilated
   - 3.2. Requirement: Include products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to comply EOC specification.
   - 3.3. Design/ performance requirements: All subsections within specification and the preliminaries A-section.
4. Rainscreen panel
   - 4.1. Type: GRC rainscreen cladding panels.
   - 4.2. Material: GRC
   - 4.3. Thickness: As determined by performance requirements.
   - 4.4. Profile: As shown in detail drawings. Allow for flat panels Ground to Level 3 as well as curved/ shaped panelling to Plant Air Intakes and Lift Overruns at Level 3 Attic & Roof levels to match shape of existing.
   - 4.5. Finish/ colour: To match existing - samples to be provided for signoff with conservation officer and employer representative.
   - 4.6. Panel fixing system: No visible fixings - detail design to be developed by specialist subcontractor.
   - 4.7. Joint type: Open
5. Air gap: Not less than 50mm.
6. Backing wall: Varies subject to location - concrete frame / brickwork. Refer to architect drawings for locations.
   - 6.1. Thermal insulation: Not required.
   - 6.2. Air and vapour control layer: Refer to EOC specification.
   - 6.3. Breather membrane: Refer to EOC specification.
7. Accessories: All flashings etc. to match existing and as shown in drawings.
   Precast coping as F31/105.
   Cavity barriers and fire stops to EOC specification.
   Allow for post and wire bird deterrent by NBC Environment or acceptable equivalent to parapet copings and cornices. Detailed design and fixing to specialist subcontractor design.
8. Incorporated components: Opening elements as shown in drawings.
   Allow for 60mm returns to window heads as shown in details.
9. Other requirements: Joints to match existing setting out - contractor to carry out survey prior to removal.

111A Rainscreen cladding - GRC General (NB)

1. Description: GRC rainscreen cladding system on proprietary support frame. Refer to EOC specification for full details.
2. Primary support structure: SFS as G10.
3. Rainscreen cladding system
   - 3.1. Type: Drained and back-ventilated
   - 3.2. Requirement: Include products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to comply EOC specification.
   - 3.3. Design/ performance requirements: All subsections within specification and the preliminaries A-section.
4. Rainscreen panel
   - 4.1. Type: GRC rainscreen cladding panels.
   - 4.2. Material: GRC
   - 4.3. Thickness: As determined by performance requirements.
   - 4.4. Profile: As shown in detail drawings.
   - 4.5. Finish/ colour: TBC - samples to be provided for signoff with employer representative. Anti-graffiti treatment to ground floor levels as EOC specification.
   - 4.6. Panel fixing system: No visible fixings - detail design to be developed by specialist subcontractor.
   - 4.7. Joint type: Open
5. Air gap: Not less than 50mm.
6. Backing wall: SFS as G10.
   - 6.1. Thermal insulation: Refer to EOC specification.
   - 6.2. Air and vapour control layer: Refer to EOC specification.
   - 6.3. Breather membrane: Refer to EOC specification.
7. Accessories: All flashings etc. to match existing and as shown in drawings.
   GRC copings with finish to windows as shown in drawings.
   Cavity barriers and fire stops to EOC specification.
   Allow for post and wire bird deterrent by NBC Environment or acceptable equivalent to parapet copings and cornices. Detailed design and fixing to specialist subcontractor design.
8. Incorporated components: Windows and opening elements as shown in drawings.
   GRC copings as shown on drawings.
   Allow for 60mm returns to window heads as shown in details.

111B Rainscreen cladding - Aluminium (NB)

1. Description: PPC Aluminium rainscreen cladding system on proprietary support frame.
2. Primary support structure: SFS as G10.
3. Rainscreen cladding system
   - 3.1. Type: Drained and back-ventilated
   - 3.2. Requirement: Include products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to comply EOC specification.
   - 3.3. Design/ performance requirements: All subsections within specification and the preliminaries A-section.
4. Rainscreen panel
   - 4.1. Type: Aluminium plant screen.

4.2. Material: Aluminium
4.3. Thickness: As determined by performance requirements.
4.4. Profile: As shown in detail drawings.
4.5. Perforation: Standard perforation pattern - pattern TBC. Perforation backed with solid panel to areas as shown in -21 series.
4.6. Finish/ colour: Powder coated as Z31. Colour to match GRC (to be confirmed through sampling)
4.7. Panel fixing system: No visible fixings - detail design to be developed by specialist subcontractor.
4.8. Panel fixings: As determined by clause 340.
4.9. Joint type: Open.

5. Air gap: Not less than 50mm.
6. Backing wall: SFS as G10.
   6.1. Thermal insulation: Refer to EOC specification.
   6.2. Air and vapour control layer: Refer to EOC specification.
   6.3. Breather membrane: Refer to EOC specification.
7. Accessories: All flashings etc. to match powder coated finish and as shown in drawings.
   3mm PPC coping as shown in drawings.
   Cavity barriers and fire stops as EOC specification.
8. Incorporated components: Doors as L20/500.

   Aluminium cladding to external columns as shown on drawing -210310.

200 Soffit cladding - Aluminium

1. Description: PPC Aluminium rainscreen soffit cladding system on proprietary support frame. Refer to EOC specification for full details.
2. Primary support structure: In situ concrete soffit.
3. Rainscreen cladding system
   3.1. Type: Drained and back-ventilated
   3.2. Requirement: Include products, fixings and interfaces necessary to complete the fabrication and installation. Performance criteria to EOC specification for full details.
   3.3. Design/ performance requirements: All subsections within specification and the preliminaries A-section.
4. Rainscreen panel
   4.1. Type: Aluminium rainscreen soffit cladding panels.
   4.2. Material: Aluminium
   4.3. Thickness: As determined by performance requirements.
   4.4. Profile: As shown in detail drawings.
   4.5. Finish/ colour: Powder coated as Z31. Dark grey (to be confirmed through sampling).
   4.6. Panel fixing system: No visible fixings - detail design to be developed by specialist subcontractor.
   4.7. Panel fixings: As determined by clause 340.
   4.8. Joint type: Labyrinth joints - setting out of joints to be agreed by specialist subcontractor with architect during detailed design.
5. Air gap: Not less than 50mm.

6. Backing wall: In situ concrete soffit.
   6.1. Thermal insulation: Refer to EOC specification.
   6.2. Air and vapour control layer: Refer to EOC specification.
   6.3. Breather membrane: Refer to EOC specification.
7. Accessories: Cavity barriers and fire stops as EOC specification.
8. Incorporated components: Integrated insulated lockable access panels.

General requirements/ preparatory work

210 Design

1. Rainscreen cladding system and associated features: Complete detailed design in accordance with this specification and the preliminary design drawings and submit before commencement of fabrication.
2. Related works: Coordinate in detailed design.

220 Specification

1. Compliance standards: The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
2. Reference information: For the duration of the contract, keep available at the design office, workshop and on site copies of:
   2.1. The Centre for Window and Cladding Technology (CWCT) 'Standard for systemised building envelopes'.
   2.2. Publications invoked by the CWCT 'Standard for systemised building envelopes'.

230 Information to be provided during detailed design

1. In addition to the tender requirements as clause 10 submit the following cladding particulars. Also refer to architectural preliminaries Contractor Submittals section A70.
   1.1. A schedule of detailed drawings and dates for submission for comment.
      1.1.1. Detailed drawings to cover all elevations and details at a suitable scale.
   1.2. A schedule of loads that will be transmitted from the rainscreen cladding to the structure.
   1.3. Proposed fixing details and systems relevant to the structural design and construction with methods of adjustment and tolerances.
   1.4. A schedule of fabrication tolerances/ size tolerances.
   1.5. A detailed testing programme in compliance with the main contract master programme.
   1.6. A detailed fabrication and installation programme in compliance with the main contract master programme.
   1.7. Proposals to support outstanding applications for Building Regulations consents or relaxations.

232 Quality plan

1. Requirement: Submit during detailed design.
2. Content: In accordance with BS EN ISO 9001 and including the following:
   2.1. Name of the quality manager.
   2.2. Quality assessment procedures.
   2.3. Inspection procedures to be adopted in checking the work.

2.4. Stages at which check lists will be used and samples of the lists.
2.5. List of work procedures on the correct use of materials or components, both off site and on site.
2.6. List of product information with latest revisions.
2.7. Subcontractors involved in the work.
2.8. Subcontractors quality plans.
2.9. Storage, handling, transport and protection procedures.
2.10. Procedure for registering and reporting non-compliances.
2.11. Maintenance procedures and calibration records.
2.12. Certification that completed work complies with specification.
2.13. Check list register to ensure all items have been inspected and non-compliances discharged.

235 Information to be provided before commencement of testing or manufacture of rainscreen cladding system

1. Submit the following cladding particulars
   1.1. Detailed drawings to fully describe fabrication and installation.
   1.2. Detailed calculations to prove compliance with design/ performance requirements.
   1.3. Project-specific fabrication, handling and installation method statements.
   1.4. Certification for incorporated components manufactured by others confirming their suitability for proposed locations in the rainscreen cladding.
   1.5. Recommendations for spare parts for future repairs or replacements.
   1.6. Recommendations for safe dismantling and recycling or disposal of products.

240 Product samples

1. General: Before commencing detailed design, submit labelled samples of: refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.

250 Samples of fixings

1. General: During detailed design, submit labelled samples of each type of fixing, together with manufacturers' recommended torque figures.

270 Mock-up

1. General: Construct during detailed design work in an agreed location. Satisfy purpose and obtain approval of appearance before proceeding. Retain undisturbed until completion of cladding installation.
2. Extent: Refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.
3. Purpose: To act as installation reference panel.

Design/performance requirements

310 CWCT 'Standard for systemised building envelopes'

1. General: Unless specified or agreed otherwise, comply with:
   1.1. Part 2 - 'Loads, fixings and movement'.
   1.2. Part 3 - 'Air, water and wind resistance'.

1.3. Part 4 - 'Operable components, additional elements and means of access'.

1.4. Part 5 - 'Thermal, moisture and acoustic performance'.

1.5. Part 6 - 'Fire performance'.

1.6. Part 7 - 'Robustness, durability, tolerances and workmanship'.

2. Project performance requirements specified in this subsection: Read in conjunction with CWCT performance requirements.

Testing

500 Generally

1. Refer to EOC specification for full details.

540 Large test specimen

1. Arrangement and overall dimensions: Refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.

Products

700 Generally

1. Refer to EOC specification for full details.

Finishes

830 Powder coating

1. Requirement: As section Z31 and EOC specification.

840 Anodizing

1. Requirement: As section Z33 and EOC specification.

Fabrication and installation

910 Generally

1. Refer to EOC specification for full details.
2. Electrolytic corrosion: Take necessary measures to prevent.
3. Identification of products: Mark or tag to facilitate identification during assembly, handling, storage and installation. Do not mark surfaces visible in the complete installation.

912 Metalwork

1. Requirement: As section Z11 and EOC specification, unless specified otherwise in this section.

922 Fixings/ adhesives application

1. Requirement: As section Z20 and EOC specification, unless specified otherwise in this section.

925 Sealant application

1. Requirement: As section Z22 and EOC specification, unless specified otherwise in this section.

930 Assembly

1. Location: Carry out as much assembly as possible in the workshop.
2. Joints: Other than movement joints and designed open joints, must be rigidly secured, reinforced where necessary and fixed with hairline abutments.
3. Displacement of components in assembled units: Submit proposals for reassembly on site.

960 Preliminary rainscreen cladding installation

1. Requirement: Complete an area of cladding as set out below for inspection and approval of appearance refer to samples and mockups schedule HCC-HBA-XX-XX-SH-A-310000.

970 Rainscreen cladding installation

1. Tightening mechanical fasteners: To manufacturer's recommended torque figures. Do not overtighten fasteners intended to permit differential movement.
2. Protective coverings: Remove only where necessary to facilitate installation and from surfaces which will be inaccessible on completion.

975 Welding

1. In situ welding: Not permitted.

985 Damage

1. Repairs: Do not repair cladding without approval.
    1.1. Approval: Will not be given where the proposed repair will impair performance or appearance.
2. Record of repairs: Prepare schedule or record on drawings for inclusion in the maintenance manual.

995 Maintenance

1. Maintenance manual: Incorporate details within the Building Manual in accordance with CWCT 'Standard for systemised building envelopes', clause 7.6.1.

Ω End of Section

J31
Liquid applied waterproof roof coatings

Types of coating

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Level of detail within specification shown to match manufacturer's information to allow warranty.
4. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

130 Inverted roof system (CC)

1. Description: Roof type RFS-FI1 and RFS-FI3
2. Substrate: - Strip and remove the existing waterproofing system back to the existing asphalt. Existing fall estimated to be (1°) 1:60.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - No deflections or back-falls. Mandatory for overlay of all existing roof builds when installing a Bauder un-insulated roof system.

   Please note all existing falls to be confirmed following strip and removal of existing waterproofing back to the existing structural screed.

   2.1. Preparation: As clause 510C, 710, 740, 741.
3. Waterproof coating: Bauder Bakor Monolithic Membrane Roof System.
4. System manufacturer: Bauder Limited or acceptable equivalent.
5. Primer type and application: Bauder Polymer Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 720B.
6. Preliminary local reinforcement: As clause 750.
7. Coating reference: Bakor790-11 hot melt rubberised bitumen.
8. Application: As clause 722, 760.
9. Reinforcement: Bauder Polyester reinforcing.
10. Thickness (nominal): 6 mm in two 3 mm coats, plus protection sheet / surfacing as described below.
11. Upstands and details: Upstand detailing to be formed in Bakor 790-11, as clause 770A.

12. Protection layer to all upstands/details: BauderFLEX K4E, torch-on capping sheet, 4mm thick, 250g/m² polyester reinforced, elastomeric bitumen - charcoal grey. To be rolled into the second layer of Bauder Bakor 790-11 hot melt rubberised bitumen coating while it is hot. Installation as Clause 770F.
13. Protection layer: BauderFLEX K4E, 4mm thick, 250g/m² polyester reinforced, elastomeric bitumen heavy duty access/protection sheet - charcoal grey finish. To be rolled into the second layer of Bauder Bakor 790-11 hot melt rubberised bitumen coating while it is hot. Installation as clause 780C.
14. Insulation: BauderJFRI PREMIUM+ Inverted Insulation for flat roofs subject to permanent loads of up to 60KPa, (expected loads above 60KPa, please contact Bauder Ltd).

    14.1. Hard Landscaping: 180mm design thickness including BS6229:2018 advisory minimum 10%.

    IMPORTANT NOTE: The above U-Value figures are based on the thermal conductivity achieved during the KIWA Certification process, resulting in differing values for soft/hard landscaping applications.
    This product has zero ODP and a Green guide rating of 'A+'. Installation as Clause 810A.
15. Insulating Vertical Upstands: Install Bauder XPS Upstand Insulation with cement board facing, after the completion of the chosen Bauder Waterproofing System.
    The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
    Bauder XPS Upstand Insulation will be used at thermal break abutment upstands, a minimum of 300mm in height from the deck surface to the top of the upstand, where the upstand does not exceed 150mm above the roof finishes and will be fitted before the flat insulation so that it is retained at the base by BauderJFRI PREMIUM+ Inverted Insulation.
    Where upstands require non-combustible insulation, use BauderROCK NC 56mm Upstand Insulation.
    Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated to achieve a maximum U value of 0.35W/m²K. Therefore, the Bauder XPS Upstand Insulation will need to use a 50mm Bauder XPS (300) Inverted Insulation backing board behind the 56mm Bauder XPS Upstand Insulation to achieve 0.35W/m²K. Alternatively they can be created as warm roof upstands.
    Please refer to clause 811A.
    Note: For all other situations refer initially to BauderROCK NC 56mm Upstand Insulation.
16. Water Flow Reducing Layer: Bauder JFRI WFRL Membrane (Water Flow Reducing Layer). Installation as clause 816A.
17. Surfacing: 20-40 mm grade washed stone ballast (supplied by others), as Clause 365. Installation as Clause 820.

    Support pedestals for paving: Bauder Adjustable (PB) Pedestal Support System, as clause 835B.
    - Concrete paving slabs: Supplied by others to the designers requirements) as clause 370. Concrete paving slabs to be installed on to the specified paving pedestal support system, as clause 840A
18. Accessories: - Bauder GRP Termination Bar (where required) suitable for use with bituminous membranes. Installation as clause 782A.
    - Bauder Aluminium Flat Plate Termination Bar (where required) suitable for use with bituminous membranes. Installation as clause 782C.
    - Bauder Hot Melt Compact – Vertical Outlet, 100 mm DN, (where required) complete with integral clamping ring, Neoprene gaskets and tough polyamide Dome Grate leaf guard. To be supplied and installed – quantity as required. Installation as clause 784.

- Bauder Parapet Emergency Overflow Outlet Stainless Steel DN 70 (where required). Installation as clause 784G.

19. Additional requirements: Refer clauses 210, 230, 310, 410, 411, 412,413, 415A, 910, 920A, 940.
20. Guarantee information: Refer clause 950H.

131 Inverted roof system (NB)

1. Description: Roof type RFS-FI2 and RFS-FI4
2. Substrate: Cementitious screed (by others), used to create falls on top of in-situ concrete.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
   - No hollows, deflections or back-falls, wood float finished and fully cured.

   2.1. Preparation: As clause 615F, 710, 740, 741.
3. Waterproof coating: Bauder Bakor Monolithic Membrane Roof System.
4. System manufacturer: Bauder Limited or acceptable equivalent.
5. Primer type and application: Bauder Polymer Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 720B.
6. Preliminary local reinforcement: As clause 750.
7. Coating reference: Bakor790-11 hot melt rubberised bitumen.
8. Application: As clause 722, 760.
9. Reinforcement: Bauder Polyester reinforcing.
10. Thickness (nominal): 6 mm in two 3 mm coats, plus protection sheet / surfacing as described below.
11. Upstands and details: Upstand detailing to be formed in Bakor 790-11, as clause 770A.
12. Protection layer to all upstands/details: BauderFLEX K4E, torch-on capping sheet, 4mm thick, 250g/m² polyester reinforced, elastomeric bitumen - charcoal grey. To be rolled into the second layer of Bauder Bakor 790-11 hot melt rubberised bitumen coating while it is hot. Installation as Clause 770F.
13. Protection layer: BauderFLEX K4E, 4mm thick, 250g/m² polyester reinforced, elastomeric bitumen heavy duty access/protection sheet - charcoal grey finish. To be rolled into the second layer of Bauder Bakor 790-11 hot melt rubberised bitumen coating while it is hot. Installation as clause 780C.
14. Insulation: BauderJFRI PREMIUM+ Inverted Insulation for flat roofs subject to permanent loads of up to 60KPa, (expected loads above 60KPa, please contact Bauder Ltd).

    14.1. Hard Landscaping: 290mm (145+145mm) design thickness including BS6229:2018 advisory minimum 10%.
    Should the required total thickness of insulation exceed 240mm, the insulation will be supplied in two layers to meet the required U Value.
    IMPORTANT NOTE: The above U-Value figures are based on the thermal conductivity achieved during the KIWA Certification process, resulting in differing values for soft/hard landscaping applications.
    This product has zero ODP and a Green guide rating of ‘A+’. Installation as Clause 810A.
15. Insulating Vertical Upstands: Install Bauder XPS Upstand Insulation with cement board facing, after the completion of the chosen Bauder Waterproofing System.
    The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited

space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
Bauder XPS Upstand Insulation will be used at thermal break abutment upstands, a minimum of 300mm in height from the deck surface to the top of the upstand, where the upstand does not exceed 150mm above the roof finishes and will be fitted before the flat insulation so that it is retained at the base by BauderJFRI PREMIUM+ Inverted Insulation.
Where upstands require non-combustible insulation, use BauderROCK NC 56mm Upstand Insulation.
Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated to achieve a maximum U value of 0.35W/m²K. Therefore, the Bauder XPS Upstand Insulation will need to use a 50mm Bauder XPS (300) Inverted Insulation backing board behind the 56mm Bauder XPS Upstand Insulation to achieve 0.35W/m²K. Alternatively they can be created as warm roof upstands.
Please refer to clause 811A.
Note: For all other situations refer initially to BauderROCK NC 56mm Upstand Insulation.

16. Water Flow Reducing Layer: Bauder JFRI WFRL Membrane (Water Flow Reducing Layer). Installation as clause 816A.
17. Surfacing: 20-40 mm grade washed stone ballast (supplied by others), as Clause 365. Installation as Clause 820.

    Support pedestals for paving: Bauder Adjustable (PB) Pedestal Support System, as clause 835B.
    - Concrete paving slabs: Supplied by others to the designers requirements) as clause 370. Concrete paving slabs to be installed on to the specified paving pedestal support system, as clause 840A
18. Accessories: - Bauder GRP Termination Bar (where required) suitable for use with bituminous membranes. Installation as clause 782A.
    - Bauder Aluminium Flat Plate Termination Bar (where required) suitable for use with bituminous membranes. Installation as clause 782C.
    - Bauder Hot Melt Compact – Vertical Outlet, 100 mm DN, (where required) complete with integral clamping ring, Neoprene gaskets and tough polyamide Dome Grate leaf guard. To be supplied and installed – quantity as required. Installation as clause 784.
    - Bauder Parapet Emergency Overflow Outlet Stainless Steel DN 70 (where required). Installation as clause 784G.
19. Additional requirements: Refer clauses 210, 230, 310, 410, 411, 412,413, 415A, 910, 920A, 940.
20. Guarantee information: Refer clause 950H.

Performance

205 Completion of roofing design

1. Requirement: Complete the detailed design to satisfy specified performance criteria and coordinate with the detailed design of related and adjacent work.
2. Structural and fire requirements: To structural engineer and fire consultant information.
3. Structural requirements: To structural engineer information.
4. Additional requirements: Responsibility and coordination at design interfaces.
5. Design and production information: As preliminaries specification.

210 Roof performance

1. General: Firmly adhered, free-draining and weathertight.

230 Insulation

1. Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
   1.1. Thermal transmittance of roof (maximum): J31/130 (CC): 0.18W/m²K (180mmm). J31/131 (NB): 0.11W/m²K (265mm).

   U-Values quoted are based on the Bauder waterproofing system construction including insulation and underlying deck material only. This does not include the supporting structure and/or any other materials within the construction below the deck, unless Bauder has been advised otherwise prior to producing the calculations. Refer to the project specific U-Value Calculation for additional information.
   1.2. Fire: To be provided as part of B Roof(t4) certified system to BS EN 13501-5. Declare all material combustibility to BS EN 13501-1 for inclusion in record information.
   1.3. Substrate surface: Suitably even, stable and robust to receive roof coatings.
   1.4. Insulation compliance: To a relevant European Standard, or Agrément certified.

Products

310 Ancillary products and accessories

1. Types: Recommended by coating manufacturer.

365 Stone ballast

1. Type: Washed, round aggregate
2. Supplier: Locally sourced.
3. Size: Graded 20-40 mm and free from fines and sharps
4. If required allow for ballast netting system to prevent birds from picking up ballast and dropping by Eco Enviromental or acceptable equivalent.

370 Precast concrete paving slabs

1. Standard: To BS EN 1339, hydraulically pressed.
   1.1. Size: 600 x 600 x 50 mm
   1.2. Colour: Natural - TBC during detailed design stage.
   1.3. Finish: TBC during detailed design stage.
2. Recycled content: Submit proposals
3. Support system: Support pedestals for paving: Bauder Adjustable (PB) Pedestal Support System, as clause 835B.
   Concrete paving slabs to be installed on to the specified paving pedestal support system, as clause 840A

Execution generally

410 Adverse weather

1. Do not apply coatings
   1.1. In wet conditions or at temperatures below 5°C, unless otherwise permitted by coating manufacturer.
   1.2. In high winds (speeds > 7 m/s), unless adequate temporary windbreaks are erected adjacent to working area.

2. Unfinished areas of roof: Keep dry.

411 General workmanship requirements

1. Installation of the Bauder waterproofing system may only be carried out by trained and certified operatives approved by Bauder Ltd and who carry current ID badges. These should be available for inspection at all times.
2. Workmanship must comply with current industry Codes of Practice (or alternatively Bauder Ltd's specification where otherwise stated). Non-compliant workmanship will not be permitted, even if the system is watertight. The client will be told that all such faults must be remedied, before the Guarantee is issued.
3. All waterproofing materials and system components must be supplied by Bauder Ltd, unless otherwise stated. Any sub-standard materials or un-authorised alternatives will be rejected. Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the Bauder System must be carried out by properly trained and qualified tradesmen.
4. Any structural damage, peculiarities or details discovered that might affect the performance of the Bauder system, should be reported immediately to the client's representative and Bauder Limited in order that they may assist in overcoming the problem.
5. Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new membranes. The final inspection will not be carried out by the Bauder Site Technician until all associated trades are complete and the roof areas are clear from all debris and protection layers.
6. It is imperative that the Bauder Approved contractor conforms to the workmanship criteria as listed above. Any deviation will result in the contract being considered unguaranteeable.
7. All mechanical and electrical work to plant and equipment should be carried out by competent mechanical and electrical qualified tradesmen. All plant is to be reinstated and re-commissioned on completion of the roofing works in accordance with the client's detailed specification.
8. Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new waterproofing.
9. If any items of plant/equipment are to be situated on the finished roof, a sacrificial layer of Bauder capping sheet is to be loose laid beneath. This is to extend a minimum 25mm past the point of contact on all sides. In the case of heavy items it may be necessary to introduce a load-spreading slab, please contact Bauder for further advice.
10. All lead work to be carried out by skilled tradesmen and in accordance with current codes of practice and the recommendations of the Lead Sheet Manufacturer.

412 Site inspections

1. Bauder Site technicians will carry out regular inspections of the project during the course of the works.
2. The Approved Contractor must make provision for and arrange that the roof is independently electronically leak tested and provide a certificate to Bauder Ltd on completion, as a pre-requisite for guarantee.
3. Bauder must be notified when the roof is ready for final inspection and the electronic leak test conducted and all related works and snagging complete.
4. No insulation, ballasting or landscaping work should be installed until Bauder have carried out a final inspection to the waterproofing and have passed this as suitable for guarantee. In addition, electronic leak detection tests must have been carried out and the test reports provided to Bauder. It is the responsibility of the roofing contractor to advise and organise this inspection

with Bauder. We cannot guarantee any waterproofing that has been insulated and/or landscaped without this inspection having been carried out and passed as acceptable.

415B Landscaped inverted roofs - related requirements

1. The following are vital to the accurate pricing, correct installation, and ultimately the long-term life of an inverted roof, and must, therefore, be included within the specification and tender documents:
    1.1. Subcontractor to validate that the roof structure and deck are suitable to receive the dead load of the proposed roof system, both during construction and on completion of the works.
    1.2. A planned or contractual delay between the installation of the waterproofing and insulation/ballast finish will almost certainly necessitate additional/increased protection to the waterproofing. This protection may be temporary or permanent. The responsibility and cost of this possible extra protection should be clearly included within the tender documents.
    1.3. The waterproofing should be taken up all abutment upstands, protrusions etc. a minimum of 150mm above finished surface level i.e. top of the ballast.

Existing substrates

510C Suitability of substrate (existing)

1. Strip back to the original structural concrete deck / screeded structural concrete deck / screeded structural concrete deck and remove the existing screed. Remove all existing waterproof coverings, including any insulation and air and vapour control layer present. Remove all waterproof detailing to abutment upstands and skirtings.

    If it is discovered that this screed is degraded in any way and is beyond localised repair, it is imperative that the approved roofing contractor informs both the client and Bauder Limited immediately in order that the problem be addressed.
2. Exposed substrate: Do not damage. The substrate should be examined and then prepared by removing any rough edges and/or defects in its surface and repairing any localised damaged areas. Apply a latex levelling screed if the surface is poor/ irregular.
    2.1. Note: an adequate provisional sum should be set aside to cover for any unforeseen issues related to the removal of the existing waterproof covering that may necessitate localised repairs to the existing screeded deck.
3. Substrates Generally
    3.1. Secure and properly fastened to the sub-structure, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions and organic growths.
    3.2. Compatible with waterproofing / coating system.
4. Moisture content and stability: Must not impair integrity of roof.
5. Concrete surface finish: Concrete Surfaces shall be to a wood float finish and uniform. Any scaling or laitance on the surface of the concrete shall be removed either by scarification, grinding, sandblasting or other Bauder Approved method. Please refer to the manufacturer's Installation and Quality Assurance Manual for important information.
6. Deck Falls: Upon Curing of the In-Situ concrete deck. Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
    6.1. No deflections or back-falls shall be present if the deck is designed to achieve a zero-falls finished surface.

6.2. Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.

6.3. The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.

6.4. An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.

6.5. An adequate provisional sum should be set aside for carrying out measures to rectify the current falls to the standard required as per the guidance from the latest version of BS6229.

7. Preliminary work: Remove rough edges, and surface defects. Rough surfaces should be scarified or ground to achieve acceptable surface for waterproofing. Complete including:

7.1. Grouting of deck slab joints.

7.2. Application of surface screed to create falls if specified, or to remove surface irregularities.

7.3. Open concrete plank joints should be grouted with sand and cement prior to specified waterproofing installation.

7.4. Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired or reinforced before application of the membrane.

7.5. Formation of abutment upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.

7.6. Fixing of battens, fillets and anchoring plugs/strips as required.

8. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, curing compounds of any foreign matter detrimental to the adhesion of the waterproofing system. Any scaling or laitance on the surface of the applied screed shall be removed by a Bauder Approved method.

9. IMPORTANT NOTE: Where it has not been possible to ascertain whether there is existing insulation; should it be discovered that existing insulation is found within the ceiling void space, there may be a requirement for this to be removed to prevent interstitial condensation forming. Please contact Bauder in order that the build-up and proposals are assessed before works commence/continue.

10. ADHESION TESTS

10.1. Requirement:

10.1.1. Arrange and carry out a Peel Bond Test to determine substrate suitability to receive the Bakor 790- 11 Hot Melt Waterproofing system.

10.1.2. Curing times: It is imperative that the concrete substrate is allowed to cure sufficiently as per above recommendations.

10.1.3. Nature of test: The contractor shall carry out a "peel" bond test to each roof area to be prepared for waterproofing (or a minimum of 1no. PBT every 75-100m2). The testing should be carried out well in advance of the actual application, in case any remedial treatment is required, or further curing is necessary.

10.1.4. Test: Clean a small area of the substrate being tested (1m²) by using a soft broom/brush to remove any dirt/debris from the surface. Dry surface as required. Apply the specified primer to the substrate (500mm²) which must be allowed to dry as per Bauder recommendations. Once the primer has dried, apply approx. 3-4mm of the specified Bakor 790-11 Hot Melt Compound (400mm2) and Bauder Protection Layer (300mm2) as per Bauder recommendations. Carry out Peel Bond Test once build up has cooled and is ready to be tested. Cut a triangular shaped incision through the Bauder Protection Layer in the central zone of the test patch. If the membrane/build-up

can be peeled up easily from the substrate, then the substrate is not ready (adhesive failure). This could be due to the deck requiring extra cure time or be an issue of contamination or laitance within the surface. If Bakor 790-11 can be seen to be bonded to the deck surface and underside of the Bauder Protection Layer and can only be pulled apart by a failure within the Bakor 790-11 itself (cohesive failure), then the bond is considered satisfactory.
(An extended Bauder Peel Bond Test procedure description is available as a .pdf on request).
We recommend that a second Peel Bond Test is done 24/48 hrs after the first to confirm the security of the first test results.

10.1.5. Test results: Submit and arrange for inspection. We recommend that all Peel Bond Tests are recorded via photo or video referencing the location.

New substrates/ vapour control layers/ warm deck roof insulation

615F Suitability of substrate (cementitious screed / self-levelling screed)

1. Substrates Generally
   1.1. Firmly fixed, secure, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions and organic growths.
   1.2. Compatible with waterproofing / coating system.
2. Substrate Design: Compatible with waterproofing / coating system.
   2.1. The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
3. NBS Reference: M10-Cement Based Levelling and Wearing Screeds.
4. Preliminary work: Complete including:
   4.1. Grouting of deck slab joints.
   4.2. Open concrete plank joints should be grouted with sand and cement prior to specified waterproofing installation.
   4.3. Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired or reinforced before application of the membrane.
   4.4. Formation of abutment upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
   4.5. Fixing of battens, fillets and anchoring plugs/strips as required.
5. Moisture content and stability: Must not impair integrity of roof.
   5.1. Cementitious Screeds shall be cured and shall be surface dry. A minimum of 14 days may be acceptable if successful adhesion tests are carried out with Bauder in attendance.
   5.2. Cementitious Screed surfaces shall be to a wood float or Bauder Approved finish and uniform.
   5.3. Self-Levelling Screeds must have adhesion tests carried out with Bauder in attendance.
   5.4. Please refer to the screed manufacturer's Installation and Quality Assurance Manual for important information.
6. Deck Falls: Upon Curing of the In-Situ concrete deck. Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
   6.1. No deflections or back-falls shall be present if the deck is designed to achieve a zero-falls finished surface.
   6.2. Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.

6.3. The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.

6.4. An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.

7. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, curing compounds of any foreign matter detrimental to the adhesion of the waterproofing system. Any scaling or laitance on the surface of the applied screed shall be removed by a Bauder Approved method.

8. ADHESION TESTS

8.1. Requirement:

8.1.1. Carry out a test to determine substrate suitability to receive the waterproofing system.

8.1.2. Curing times: It is imperative that the concrete substrate is allowed to cure sufficiently as per above recommendations.

8.1.3. Nature of test: The contractor shall carry out a "peel" bond test to each roof area to be prepared for waterproofing. The testing should be carried out well in advance of the actual application, in case any remedial treatment is required, or further curing is necessary.

8.1.4. Test: Clean a small area of the substrate being tested (1m²) by using a soft broom/brush to remove any dirt/debris from the surface. Dry surface as required. Apply the specified primer to the substrate (500mm²) which must be allowed to dry as per Bauder recommendations. Once the primer has dried, apply approx. 3-4mm of the specified Bakor 790-11 Hot Melt Compound (400mm2) and Bauder Protection Layer (300mm2) as per Bauder recommendations. Carry out Peel Bond Test once build up has cooled and is ready to be tested. Cut a triangular shaped incision through the Bauder Protection Layer in the central zone of the test patch. If the membrane/build-up can be peeled up easily from the substrate, then the substrate is not ready (adhesive failure). This could be due to the deck requiring extra cure time or be an issue of contamination or laitance within the surface. If Bakor 790-11 can be seen to be bonded to the deck surface and underside of the Bauder Protection Layer and can only be pulled apart by a failure within the Bakor 790-11 itself (cohesive failure), then the bond is considered satisfactory.
(An extended Bauder Peel Bond Test procedure description is available as a .pdf on request).
We recommend that a second Peel Bond Test is done 24/48 hrs after the first to confirm the security of the first test results.

8.1.5. Test results: Submit and arrange for inspection. We recommend that all Peel Bond Tests are recorded via photo or video referencing the location.

Roof coating system

710 Adhesion tests

1. Requirement: Carry out in advance of specified waterproofing installation a Peel Bond Test to determine priming requirements and/or deck suitability for specified waterproofing installation.

2. Nature of test: The Bauder Approved Contractor shall carry out the Peel Bond Test to each roof area, (or a minimum of every 75-100m²) prepared for waterproofing, by applying Bakor 790-11 hot rubberised bitumen to the deck to test for proper adhesion. This must be carried out strictly in accordance with Bauder requirements, as set out in the Bakor Installation and Quality Assurance Manual.

3. Test results: Recorded by the Bauder Approved Contractor for reference or inspected and recorded by a Bauder Site Technician at time of test.

720B Applying primer

1. Purpose: Quick drying substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of the Bauder Bakor Hot melt waterproofing system.
2. Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material. Smooth metal to be prepared using a wire brush.
3. Application method: Bauder Polymer Primer to be spray, brushed, or roller applied uniformly to all surfaces receiving the new waterproofing, avoiding excessive application. Ponding of the primer is not recommended.
4. The primer shall be thoroughly dry before applying the hot melt rubberised bitumen coating. Allow to dry for a minimum of 30 minutes.
5. Application rate: Between 4-6 m² per litre, dependent upon substrate porosity
6. Application temperature range: 5-25°C
7. Drying time: Approx. 30 minutes, dependent upon ambient temperature and substrate porosity.
8. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.
9. Re-application: Necessary after 24 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.
10. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

722 Membrane application to details (prior to flat area)

1. The waterproofing is applied to structural details first i.e. upstands, outlets, cracks etc. before the main deck area is waterproofed.

   Note there are optional build ups that can be applied to the details. The choice for any specific location will be dependent on a number of criteria i.e. project size, number of visits to site required by the waterproofing contractor, construction sequence etc. For specific details or features where the specified detailing is considered inappropriate and an alternative technique is required, then Bauder should be contacted first for approval.

740 Movement joints in substrate

1. Up to 12mm
   1.1. Reinforcement Strip: Bauder Neoprene bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 150mm on each side of the expansion joint. Apply reinforcement while coating is still hot to ensure full adhesion. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 50 mm overlap.
   1.2. The Bakor790-11 system is then applied directly over the reinforcement strip as per specification.
2. From 12mm – 25mm
   2.1. Reinforcement Strip: Bauder Neoprene bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 150mm on each side of the joint. Bauder Neoprene is to be looped down into the movement joint to a depth of 1 ½ times the width of the joint opening. This loop is filled with Bakor 790-11. Apply reinforcement while coating is still hot to ensure full adhesion. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 50 mm overlap.

2.2. The Bakor790-11 system is applied directly over the reinforcement strip as per specification.

741 Minor movement joints in substrate

1. CRACKS 1.5mm – 3.0mm
   1.1. Reinforcement Strip: Bauder Polyester fabric reinforcement bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 150mm on each side of the crack. Apply 150mm polyester reinforcement strip while coating is still hot to ensure full adhesion and partial bleed through of the bitumen. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 50 mm overlap. Polyester reinforcing strip should be coated with Bakor 790-11 in the event of impending wet weather or if the waterproofing is not going to be applied same day.
   1.2. The Bakor790-11 system is then applied directly over the reinforcement strip as per specification.
2. CRACKS 3.0mm – 12.00mm
   2.1. Reinforcement Strip: 150mm Bauder Neoprene bedded in a preliminary application of Bakor 790-11 coating applied 3mm thick to a width of 150mm on each side of the crack. Apply reinforcement while coating is still hot to ensure full adhesion. Smooth out wrinkles and press into coating to exclude air. Lap joints in length, ensuring a minimum 50 mm overlap.
   2.2. The Bakor790-11 system is applied directly over the reinforcement strip as per specification.

750 Preliminary local reinforcement

1. Appropriate 150 mm wide reinforcement strip (see below), applied centrally to the nick of the upstand i.e. taken 75 mm up the vertical and 75 mm out to the horizontal. Apply to all junctions at abutment upstands, penetrations and outlets, also to joints and fixings in discontinuous unit substrates. Bed in a preliminary application of Bakor hot melt coating. Smooth out wrinkles and press into coating to exclude air. Lap all joints between lengths.
2. Bauder Polyester reinforcing strip: Suitable with concrete decks where the upstand is either monolithically cast insitu, subsequently cast insitu or constructed from brick or block work.
3. Bauder Neoprene Reinforcement: To be used in all other situations i.e. plywood or OSB substrates with abutment upstands or kerbs constructed from the same material, timber or metal sheeting. This reinforcement must also be used at all outlets, penetrations, fixings etc.

760 Application of roof coatings

1. Apply first layer of Bakor 790-11 hot melt rubberised bitumen coating at a working temperature of between 180°C - 200 °C, evenly to the deck to a minimum depth of 3 mm. This layer of coating must be lapped onto the previously installed detailing at all abutment upstands, outlets, protrusions etc., in order to achieve a monolithic coating over the entire deck area.
2. Bauder Polyester reinforcing layer to be rolled out and bedded into the Bakor 790-11 while it is still hot, to ensure it is fully bonded and ensuring partial bitumen bleed through.
3. Overlaps to be a minimum of 10mm wide, ensuring that a layer of hot melt membrane is present between the layers.
4. Apply the second layer of Bakor 790-11 hot melt rubberised bitumen coating at a working temperature of between 180°C - 200 °C, evenly onto the polyester reinforcing layer to a minimum depth of 3 mm, providing a total minimum monolithic waterproofing layer of 6 mm.
5. Thickness Tests: Regular thickness tests must be undertaken (and recorded for reference), using an approved depth gauge.

6. Continuity: Maintain full thickness of coatings around angles, junctions and features.
7. Rainwater outlets: Form with watertight joints.
8. Drainage systems: Do not allow liquid coatings to enter piped rainwater or foul systems.

770A Skirtings / Upstands

1. Preliminary reinforcement strip: The correct reinforcement strip must first be applied at all right angled abutments, penetrations, outlets and fixings etc before the application of the Bakor 790-11 detailing (except for when the alternative two-layer SBS membrane system is used). Please see clause 750. If unsure about the correct reinforcing material for any given situation, please refer to the Bauder Installation and Quality Assurance Manual or contact Bauder's Technical Department for confirmation or further information.
2. Waterproofing application
    2.1. First layer: Bakor 790-11 hot melt rubberised bitumen membrane, applied 3mm thick up the upstands and out onto the deck a minimum of 200mm.
    2.2. Reinforcement: Bauder Polyester reinforcing sheet to be embedded into the first layer of Bakor 790-11, up the upstands, and dressed down and out onto the flat by 75mm. Laps to be a minimum of 10mm. The reinforcing sheet must be applied when the hot melt rubberised bitumen is still hot in order to ensure a full adhesion and a partial bitumen bleed through.
    2.3. Second layer: Bakor 790-11 hot melt rubberised bitumen membrane, onto the deck and upstand over the reinforcement layer, 3mm thick up the upstands and out onto the deck a minimum of 200mm ensuring to "feather" down towards the edge.
    2.4. Protection layer to upstands: As specified above.
    2.5. Termination Bar: Bauder Termination Bar to be used to fix the waterproofing and access/protection which terminates on a vertical plane. Fixings to be at a minimum 300mm centres. Bauder Mastic Sealant to be applied in a neat bead both behind and along the top edge of the termination bar.
    2.6. Top edges of coatings: Where not protected by flashings, apply into chases cut to a depth of not less than 10 mm.
    2.7. Completion of chases: When coatings are fully cured, prepare chase by priming with Bauder Mastic Sealant primer and apply sealant as per manufacturer's instructions.
    2.8. Sealant: Bauder Mastic Sealant.
3. Upstand details (minimum height): 150 mm. To be taken from the finished landscaped roof surface as opposed to the waterproofing surface. Special attention should be paid to all structures, such as rooflights, counter-flashings, window and door cills, pipes etc. Bauder cannot take responsibility for water ingress over waterproofing details constructed below the recommended minimum height.
4. Level Thresholds: Acceptable, providing conforms to BS6229:2018 and current NHBC Standards, chapter, 7.1.
    4.1. Requirements:
        4.1.1. Minimum 75mm upstand height. (This must be taken from the waterproofing or top of the insulation if an inverted roof).
        4.1.2. Falls are directed away from the door cill.
        4.1.3. Waterproofing is dressed up and under the door cill.
        4.1.4. Door cill has a minimum 45mm overhang.
        4.1.5. Provision is made for emergency overflow to prevent water getting to the waterproofing and cill interface.
    4.2. Any level threshold details not meeting this standard cannot be guaranteed by Bauder.

4.3. Note: Bauder recommends the installation of a linear drain (Bauder KH-60 Linear Drain is suitable for this purpose) in front of the access door threshold, to help prevent rainwater splash back and snow build-up.

770F Coating protection (upstands / detailing)

1. Location: Upstands and details.
2. Material: BauderFLEX K4E, 4.2mm thick, polyester reinforced, elastomeric bitumen slate mineral surfaced access/protection sheet to be rolled into the second layer of Bauder Bakor 790-11 hot melt rubberised bitumen coating while it is hot, to ensure a full bond. A wide headed brush used when rolling in will assist in avoiding wrinkles and prevent entrapping air bubbles.
   2.1. Laps: All laps to be 100mm and torch sealed, ensuring there is a continuous extrusion of root resistant bitumen from all laps.
3. Upstand details (minimum height): 150 mm. To be taken from the finished landscaped roof surface as opposed to the waterproofing surface. Special attention should be paid to all structures, such as rooflights, counter-flashings, window and door cills, pipes etc. Bauder cannot take responsibility for water ingress over waterproofing details constructed below the recommended minimum height.
4. Level Thresholds: Acceptable, providing conforms to BS6229:2018 and current NHBC Standards, chapter, 7.1.
   4.1. Requirements
      4.1.1. Minimum 75mm upstand height. (This must be taken from the waterproofing or top of the insulation if an inverted roof).
      4.1.2. Falls are directed away from the door cill.
      4.1.3. Waterproofing is dressed up and under the door cill.
      4.1.4. Door cill has a minimum 45mm overhang.
      4.1.5. Provision is made for emergency overflow to prevent water getting to the waterproofing and cill interface.
   4.2. Any level threshold details not meeting this standard cannot be guaranteed by Bauder.
   4.3. Note: Bauder recommends the installation of a linear drain (BauderGREEN ER MR 150/60 linear drain and grill plate is suitable for this purpose) in front of the access door threshold, to help prevent rainwater splash back and snow build-up.
5. IMPORTANT NOTE: The mineral slate finish is a natural product, so the raw material may differ in colour and shade, over which Bauder has no control. There may also be colour variations between each roll of membrane.

780C Coating protection layer

1. Location: All areas (but excluding upstands and details)
2. Material: BauderFLEX K4E, 4.2 mm thick, polyester based, elastomeric bitumen slate mineral surfaced access/protection sheet to be rolled into the second layer of Bakor 790-11 hot melt rubberised bitumen coating while it is hot, to ensure a full bond. A wide headed brush used mineral surfaced when rolling in will assist in avoiding wrinkles and prevent entrapping air bubbles.
3. Laps: All laps to be 100mm and torch sealed, ensuring there is a continuous extrusion of root resistant bitumen from all laps.

782A Termination bar

1. Type: Bauder GRP termination bar counter-flashing to be installed above the dressed waterproofing.

2. Fixing: Fixed above (and not through) the completed upstand waterproofing. The termination bar is to be correctly positioned and all holes marked and drilled. The contact area of the upstand and the reverse side of the termination bar is then cleaned and primed with Bauder Sealant primer and allowed to dry. Install with 2 No. beads of Bauder Sealant to rear surface of bar, plugged and screw fixed at 300mm centres.
    2.1. Upstands exceeding 250 mm: In accordance with current Codes of Practice, upstands exceeding 250 mm in height are classed as vertical work and should be mechanically fixed along the top leading edge of the waterproofing (screws and washers or flat bar fixed – supplied by others).
3. Sealant: Bauder Sealant primer and Bauder Sealant should then be applied to the protruding top lip and finished neatly with the correct tooling. Please note that the termination bar should provide a minimum cover of 50mm over the top of the finished upstand waterproofing.

782C Termination bar

1. Type: Bauder Aluminium Flat Plate termination bar to be installed to the top edge of the dressed waterproofing.
2. Fixing: : Fxed through the completed upstand waterproofing. The termination bar is to be correctly positioned and all holes marked and drilled. Plugged and screw fixed at 300mm centres.
    2.1. Upstands exceeding 250 mm: In accordance with current Codes of Practice, upstands exceeding 250 mm in height are classed as vertical work and should be mechanically fixed along the top leading edge of the waterproofing (screws and washers or flat bar fixed – supplied by others).

784 Roof drainage outlets

1. Product name: Bauder Hot Melt Compact – Vertical Outlet
2. Material: Cast polyurethane body with integral clamping ring and Neoprene gaskets.
3. Product size/ reference: 100 DN mm, with vertical spigot designed to connect to standard 110mm pipework.
4. Flow rate: 6.1 litres/sec. (Based upon vertical pipework, fitted leaf guard and a 35 mm head of water pressure – according to BS EN 12056:3:2000).
5. Pipe connection: Bauder Hot Melt Compact - Vertical Outlets are suitable for connection to:
    5.1. uPVC “O” ring socketed soil grade pipe to BS 4514: 1983
    5.2. Socketed and socket-less cast iron pipework to BS 416:1973 and EN 887. Socketed pipework will require cold caulking or PVC to cast iron adaptors. Socket-less pipework can be connection using an appropriate SML mechanical coupling.
    5.3. HDPE pipework with appropriate SML mechanical coupling
6. Type of grate/ fittings: Supplied with a tough polyamide Dome Grate leaf guard.
7. Bauder Hot Melt Compact - Vertical Outlet - Installation requirements: These components form part of the Bauder waterproofing system and for guarantee reasons should only be installed by Bauder Approved installers. Connectivity to below deck drainage pipework to be the responsibility of the plumbing contractor.
8. Fixing
    8.1. Core hole through deck 250mm.
    8.2. Place smaller neoprene gasket on to deck surface over pre-cored hole.
    8.3. Install outlet into hole sitting on top of neoprene gasket.
    8.4. Mechanically fasten the outlet into substrate using the three pre-drilled holes in the polyurethane outlet flange.

8.5. Install the first layer of Hot Melt waterproofing on to the first 35mm of the polyurethane outlet flange. Note - If the first coat of Hot melt is taken further than this into the depression on the flange, it is very difficult to sit the screw flange correctly.

8.6. Install the 495 x 495mm neoprene gasket on to the first layer of Hot Melt whilst still hot.

8.7. Install the second coat of Hot Melt fully covering the 495 x 495mm neoprene gasket up to the edge of the outlet hole.

8.8. Install the protection sheet over the Hot Melt waterproofing and trim to ensure the outlet hole is clear and free from waterproofing material.

8.9. Place the clamping ring into position ensuring it provides a physical clamp between the protection sheet and outlet body.

8.10. Tighten the countersunk head screws supplied with a screwdriver in a uniform opposing pattern with a maximum torque of 9 Nm. the screws should be checked and tightened at least three times, 24 hours between each check.

784G Parapet emergency overflow

1. Product Name: Bauder Parapet Emergency Overflow Stainless Steel DN 70
2. Material and specification: Stainless Steel. Length of tube 800mm. 3° neck slope
3. Flow Rate: In accordance with BS EN 12056-3-2000, Overflows or emergency outlets should be provided on flat roofs with parapets and in non-eaves gutters in order to reduce the risk of over spilling of rainwater into a building or structural overloading.
4. Suitability: These emergency overflow outlets are designed to be used as a through chute to warn of a build-up of water on the roof due to a blockage of the drainage system(s). They are not suitable or intended for connection to internal pipework that is within a wall construction or boxed in and is inaccessible after construction.
5. Installation requirements: Emergency overflow (suitable for bitumen membranes) to be installed through the system and kerb after creation of a suitable size diameter opening. The overflow should be secured using suitable fixings. The fixing plates supplied will form part of the Bauder waterproofing system and for guarantee reasons should only be installed by Bauder Approved installers.
6. Fixing: The deck or wall structure may require preparatory works before the emergency overflow can be installed: The bitumen waterproofing membrane should be suitably bonded on to the overflow plate. The overflow opening should be positioned approx. 35mm above the lowest point of the waterproofing or landscape finish.

Surfacing

810A Laying inverted roof insulation (field areas)

1. Preparation: Clear roof of other trades.
2. Condition of substrate: Clean.
3. Thermal requirements: In compliance with Part L of the current Building Regulations.
4. Separating layer: N/A
5. Setting out: Loose lay insulation directly over the Access/Protection/Root Barrier Layer to brick pattern with staggered joints. Minimize cutting and avoid small pieces at perimeters and penetrations. Dependent upon the total thickness required, it may be necessary to construct the insulation using two layers of board. The manufacturer/supplier can advise on the available combination options.
6. Joints: Butt together.
7. Projections, upstands, rainwater outlets, etc: Cut insulation cleanly and fit closely around.

8. Completion: Boards in good condition, well-fitting and stable with no springing or rocking. Cover to prevent wind uplift and flotation as soon as practicable.
   Loading over inverted insulation (minimum): Ballast (landscaping) should be installed onto the Bauder WFRL Membrane (Water Flow Reducing Layer) to a minimum depth required to achieve a permanent minimum 80Kg/m² and load which prevents wind uplift and flotation of the insulation in high winds and/or heavy rainfall.
9. Additional loading at perimeters: On high buildings in more exposed areas, wind uplift may be a problem and in these instances paving slab ballast must be considered. Paving slabs should be a minimum of 50mm thick. The slabs should be laid on paving slab supports of minimum 175mm diameter (or equivalent base area).
10. All final details must to be confirmed with Bauder before proceeding.

811A Laying inverted insulation (vertical upstands)

1. Attachment / Installation sequence:
   1.1. Upstand board height to be no greater than 150mm above finished landscape level.
   1.2. Generally, the upstand insulation should be installed first, so it can be wedged in position at the base by the boards subsequently applied to the flat areas.
   However, if there are two or more layers (multi layers) of insulation to the field areas, the bottom layer(s) of insulation can sit at deck level and the upstand board can be installed on top and then wedged into position using the uppermost layer of the insulation to the field area. The uppermost layer must be a minimum of 100mm thick.
   1.3. Top edge of Bauder XPS Upstand Insulation should be protected by a suitable cover flashing.
   1.4. Non-solvent PU Adhesive should be used to restrain the Bauder XPS Upstand Insulation if required.
   1.5. Insulation boards must be installed tightly butted together.
2. Upstands formed at insulated wall abutments: Bauder XPS Upstand Insulation to be used at thermal break abutment upstands where the upstand does not exceed 150mm above the roof finishes. Installation in accordance with the above instructions and those found on our Bauder XPS Upstand Insulation PDS.
3. Multi board layers: Where an additional layer is required to achieve 0.35W/m²K, the additional layer should be Bauder XPS (300) and adhered to the polystyrene face of the Bauder XPS Upstand Board using the recommended non-solvent PU Adhesive. Please refer to the Bauder Product Data Sheet for further information.

816A WFRL (Water Flow Reducing Layer)

1. Setting out: To be rolled out loose over the Insulation. The material should be dressed up all upstand abutments and details to the height of the surfacing.
2. Laps: The material is to be lapped a minimum of 300mm in a direction that helps shed water from the roof rather than beneath the membrane.
3. The ballast loading /landscaping should be applied immediately after the vapour permeable membrane to ensure it is secure against wind uplift.

820 Laying stone ballast

1. Condition of substrate: Clean.
2. Gravel guards: Fit to outlets.
3. Laying: Do not pile to excessive heights. Spread evenly.
   3.1. Depth (minimum): min.60 mm

4. Installation: 20 – 40mm rounded washed pebbles to be installed onto the vapour permeable membrane to a minimum depth of 60mm, which prevents wind uplift and flotation of the insulation in high winds and/or heavy rainfall.
5. Additional loading at perimeters: On high buildings in more exposed areas, wind uplift may be a problem and in these instances paving slab ballast must be considered. Paving slabs should be a minimum of 50mm thick. The slabs should be laid on paving slab supports of minimum 175mm diameter (or equivalent base area). Accurate loadings (Kg/m^2) can be confirmed by carrying out project specific windload calculations – please contact Bauder Ltd.
6. All final details must to be confirmed with Bauder before proceeding.

835B Adjustable pedestal supports

1. Product reference: Bauder Adjustable (PB) Pedestals
2. Material: Polypropylene copolymer with min. 65% recycled content.
3. Colour: Black.
4. Placement: Supports to be installed according to the Bauder System build-up below:
    4.1. Bituminous membranes (including Bauder Blue Roofs): Directly on to the waterproofing.
    4.2. Inverted insulation: Directly on to filter layer / WFRL.
5. Range of adjustment: 18mm - 955 mm (bracing system used on heights over 600 mm).
6. Top/Head Diameter: 170mm
7. Base Diameter: 197mm
8. Base Support (surface area): 305cm^2
9. Spacers/shims: Range available.
10. Spacer tabs: Available to provide drainage gaps of 3, 4.5 mm.
11. Slope compensation: 0 - 5% @ 0.5 % half degree increments
12. Compressive strength: Maximum 1000kg /(10KN)
13. Extenders: Additional height adjustment, where required, can be obtained by using extenders. See information above and the technical literature.
14. Installation: System to be installed in accordance with the technical literature and installation instructions. If there is any doubt as to the exact requirements consultation should be made with Bauder Limited.

840A Laying concrete paving slabs

1. Extent: Shown on drawings indicatively - to be confirmed at next stage subject to MEP coordination.
2. Support: Slabs to be laid on the specified proprietary support pads, adjusted in accordance with the manufacturer's recommendations to ensure a flush, level finished surface.
3. Condition of substrate: Clean.
4. Setting out: Minimize cutting.
5. Joints: Open.
    5.1. Width: 4.5mm
6. Completion: Slabs must be level and stable.

Completion

910 Inspection

1. Coating surfaces: Check when cured for pinholes and discontinuities.
2. Defective areas: Apply another layer of coating
3. Interim and final roof inspections: In accordance with the manufacturer's requirements for guarantee.
4. Notification
   - 4.1. Final Inspection: This is a requirement for guarantee and must be carried out in strict accordance with Bauder Limited requirements.
     The final inspection of the waterproofing and the Electronic roof integrity test (refer clause 920A) must be carried out and test certificate sent to Bauder prior to any landscaping products/materials being installed. This is mandatory for the issue of the guarantee. Safe access to carry out this inspection must be provided.
     Please note, there are/maybe further roof 'sign-off' inspections required to complete the roof(s) for this specification. If so, please note the below.
   - 4.2. Other requirements: Please also refer to preliminaries / general conditions.
5. NHBC Requirements: The waterproofing must be visually inspected and electronically tested for waterproofing integrity, faults rectified, and retested prior to the installation of any landscaping products. The results of the test(s) should be made available to the NHBC.

920A Electronic roof integrity test

1. Testing authority: UKAS approved laboratory with roofing contractor in attendance.
2. Timing of test: Immediately prior to installation of the landscaping.
3. Condition of roof prior to testing
   - 3.1. Coating: Complete to a stage where integrity can be tested.
   - 3.2. Surface: Clean.
4. Test results: Copy of reports to be retained as part of the project records.
5. Waterproof integrity certificate: On completion of a successful test confirming waterproofing integrity, submit copy to Bauder for processing of guarantee.

930 Flood test

1. Condition of roof prior to testing
   - 1.1. Coating: Complete to a stage where integrity can be tested.
   - 1.2. Surface: Clean.
2. Outlets: Externally cover and seal. Protect against damage from water pressure using temporary kerbs. Do not use plugs to seal outlets.
3. Flood levels: Submit proposals. In no case higher than existing kerbs.
4. Flood duration: Three days
5. Inspection: Regular to detect leaks.
6. Completion of test: Slowly drain roof. Do not overload or flood outlets.
7. Test results: Submit.

940 Completion

1. Roof areas: Clean.

1.1. Outlets: Clear.

1.2. Flashings: Dressed into place.

2. Work necessary to provide a weathertight finish: Complete.
3. Storage of materials on finished surface: Not permitted.
4. Completed coatings: Protect against damage from traffic and adjacent or high level working.

950H Guarantee

1. A 20 year system product and workmanship guarantee is to be provided upon completion following a Final Inspection by Bauder. Details regarding the full terms and conditions are available separately from Bauder Ltd upon request. The Bauder products must be installed by a Bauder Approved Contractor and the completed roof subject to an electronic waterpfoofing integrity test by an approved and certified testing company that confirms the roof as issue free and successfully watertight, before the installation of any surfacing. A copy of the testing certification must be forwarded to Bauder Limited for approval prior to the guarantee being issued.

Ω End of Section

J41
Reinforced bitumen membrane roof coverings

Types of roof covering

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Level of detail within specification shown to match manufacturer's information to allow warranty.
4. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Built-up reinforced bitumen membrane warm deck roof system (CC)

1. Description: Roof type RFS-FW1
2. Substrate: - Strip and remove the existing waterproofing system back to the existing asphalt. Existing fall estimated to be (1°) 1:60.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - No deflections or back-falls. Mandatory for overlay of all existing roof builds when installing a Bauder un-insulated roof system.

   Please note all existing falls to be confirmed following strip and removal of existing waterproofing back to the existing structural screed.

   2.1. Preparation: As clause 625D.
3. Primer type and application: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
4. Air & vapour control layer (All Areas Except ‘Torch-Free’ Zone): Bauder EVA35, 3.5mm thick aluminium lined, elastomeric bitumen torch applied air and vapour control layer. Installation as clauses 670D, 710.

   4.1. Air & vapour control layer to upstands and detailing (‘Torch-Free’ / ‘Safe to Torch’ Zone): : BauderTEC KSD FBS, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses 670G, 710.
   Please note: Areas where a self-adhesive AVCL is used, should be primed with Bauder Activator-Primer (Canister), APR01-Black.
5. Insulation: · BauderPIR FA G16 Tapered insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.

- The scheme may incorporate the use of aluminium foil faced BauderPIR FA-TE Flatboard insulation installed as base-layer(s), and BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) where required. BauderPIR FA G16 Tapered and BauderPIR FA-TE Flatboard has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
- Please refer to the Bauder Tapered Insulation Layout drawing for individual board thickness, number of layers and number of ridge & Valley infills required.
- Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing supplied to achieve the required U value (refer Clause 230).
- BauderPIR T KL 50 angle fillets 50 mm x 50 mm for use with insulated & un-insulated upstands.
- Installation as clauses 680G and 775.

6. Insulating vertical upstands: BauderPIR FA-TE flatboard, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation.
   The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal 30mm thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
   This insulation will be a minimum of 300mm in height from the deck surface to the top of the upstand and will ideally be fitted before the flat insulation so that it is retained at the base. Bauder Insulated Upstand Support Brackets should be installed to secure the top and provide a hard-leading edge.
   Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated with 60mm thick BauderPIR FA-TE flatboard insulation to achieve a maximum U value of 0.35W/m²K.
   Installation as clause 681B.
7. Waterproof covering: Bauderflex System or acceptable equivalent.
   7.1. System manufacturer: Bauder Limited or acceptable equivalent.
   7.2. Primer: Bauder Activator-Primer (Canister), APR01-Black, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause 660B.
   7.3. Underlayer: BauderTEC Sprint DUO, 2 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.
   7.4. Attachment: As clauses 710, 747A.
   7.5. Top layer / Cap sheet: BauderFLEX K4E, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey.
   7.6. Attachment: As clauses 710, 750A.
   7.7. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.
8. Surface protection: N/A
9. Surfacing: Designated areas of maintenance access walkway defined using Bauder capping sheet, in a contrasting colour finish. Install as clause 863.
10. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
    - Bauder Parapet Emergency Overflow Stainless Steel DN 70 (Where required) Installation as clause 784G.
    - Bauder GRP edge trim (Where required) to all perimeter kerbs – Profile: Client to confirm. Colour: Client to confirm. Installation, as clause 785.
    - Bauder lightning conductor clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.

11. Additional Requirements: As clauses 210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer clause 950C.

111 Built-up reinforced bitumen membrane warm deck roof system (NB)

1. Description: Roof type RFS-FW3
2. Substrate: Structural Concrete Deck.
   - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
   - Roof falls to be provided by the tapered insulation scheme.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
   - No hollows, deflections or back-falls, wood float finished and fully cured.

   2.1. Preparation: As clause 610C.
3. Primer type and application: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
4. Air & vapour control layer (All Areas Except ‘Torch-Free’ Zone): Bauder EVA35, 3.5mm thick aluminium lined, elastomeric bitumen torch applied air and vapour control layer. Installation as clauses 670D, 710.

   4.1. Air & vapour control layer to upstands and detailing (‘Torch-Free’ / ‘Safe to Torch’ Zone): : BauderTEC KSD FBS, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses 670G, 710.
   Please note: Areas where a self-adhesive AVCL is used, should be primed with Bauder Activator-Primer (Canister), APR01-Black.
5. Insulation: · BauderPIR FA G16 Tapered insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
   - The scheme may incorporate the use of aluminium foil faced BauderPIR FA-TE Flatboard insulation installed as base-layer(s), and BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) where required. BauderPIR FA G16 Tapered and BauderPIR FA-TE Flatboard has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
   - Please refer to the Bauder Tapered Insulation Layout drawing for individual board thickness, number of layers and number of ridge & Valley infills required.
   - Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing supplied to achieve the required U value (refer Clause 230).
   - BauderPIR T KL 50 angle fillets 50 mm x 50 mm for use with insulated & un-insulated upstands.
   - Installation as clauses 680G and 775.
6. Insulating vertical upstands: BauderPIR FA-TE flatboard, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation.
   The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal 30mm thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
   This insulation will be a minimum of 300mm in height from the deck surface to the top of the upstand and will ideally be fitted before the flat insulation so that it is retained at the base. Bauder Insulated Upstand Support Brackets should be installed to secure the top and provide a hard-leading edge.
   Rooflight upstands (e.g. Builder’s Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated with 60mm thick BauderPIR FA-TE flatboard insulation

to achieve a maximum U value of 0.35W/m²K.
Installation as clause 681B.

7. Waterproof covering: Bauderflex System or acceptable equivalent.
   7.1. System manufacturer: Bauder Limited or acceptable equivalent.
   7.2. Primer: Bauder Activator-Primer (Canister), APR01-Black, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause 660B.
   7.3. Underlayer: BauderTEC Sprint DUO, 2 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.
   7.4. Attachment: As clauses 710, 747A.
   7.5. Top layer / Cap sheet: BauderFLEX K4E, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey.
   7.6. Attachment: As clauses 710, 750A.
   7.7. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.
8. Surface protection: N/A
9. Surfacing: Designated areas of maintenance access walkway defined using Bauder capping sheet, in a contrasting colour finish. Install as clause 863.
10. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
    - Bauder Parapet Emergency Overflow Stainless Steel DN 70 (Where required) Installation as clause 784G.
    - Bauder GRP edge trim (Where required) to all perimeter kerbs – Profile: Client to confirm. Colour: Client to confirm. Installation, as clause 785.
    - Bauder lightning conductor clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.
11. Additional Requirements: As clauses 210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer clause 950C.

112 Built-up reinforced bitumen membrane warm deck roof system - Green Roof (NB)

1. Description: Roof type RFS-RG1
2. Substrate: - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
    - Roof falls to be provided by the tapered insulation scheme.
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
    - No hollows, deflections or back-falls, wood float finished and fully cured.
   2.1. Preparation: As clauses 610C.
3. Primer type and application: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.

4. Air & vapour control layer (All Areas Except 'Torch-Free' Zone): Bauder EVA35, 3.5mm thick aluminium lined, elastomeric bitumen torch applied air and vapour control layer. Installation as clauses 670D, 710.

    4.1. Air & vapour control layer to upstands and detailing ('Torch-Free' / 'Safe to Torch' Zone): BauderTEC KSD FBS, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses 670G, 710. Please note: Areas where a self-adhesive AVCL is used, should be primed with Bauder Activator-Primer (Canister), APR01-Black.

5. Insulation: - BauderPIR FA G16 Tapered insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
   - The scheme may incorporate the use of aluminium foil faced BauderPIR FA-TE Flatboard insulation installed as base-layer(s), and BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) where required. BauderPIR FA G16 Tapered and BauderPIR FA-TE Flatboard has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
   - Please refer to the Bauder Tapered Insulation Layout drawing for individual board thickness, number of layers and number of ridge & Valley infills required.
   - Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing supplied to achieve the required U value (refer Clause 230).
   - BauderPIR T KL 50 angle fillets 50 mm x 50 mm for use with insulated & un-insulated upstands.
   - Installation as clauses 680G and 775.

6. Insulating vertical upstands: BauderPIR FA-TE flatboard, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation.
   The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal 30mm thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
   This insulation will be a minimum of 300mm in height from the deck surface to the top of the upstand and will ideally be fitted before the flat insulation so that it is retained at the base. Bauder Insulated Upstand Support Brackets should be installed to secure the top and provide a hard-leading edge.
   Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated with 60mm thick BauderPIR FA-TE flatboard insulation to achieve a maximum U value of 0.35W/m²K.
   Installation as clause 681B.

7. Waterproof covering: Bauderflex Green System or acceptable equivalent.

    7.1. System manufacturer: Bauder Limited or acceptable equivalent.

    7.2. Primer: Bauder Activator-Primer (Canister), APR01-Black, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause 660B.

    7.3. Underlayer: BauderTEC Sprint DUO, 2 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.

    7.4. Attachment: As clauses 710, 747A.

    7.5. Top layer / Cap sheet: BauderPLANT E 42, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen root resistant, torch applied capping sheet, green slate finish.

    7.6. Attachment: As clauses 710, 750B.

    7.7. Flashings and detail work: BauderPLANT E 42 root resistant capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.

8. Surface protection: N/A

9. Surfacing: Extensive green roof landscaping including Bauder BioSOLAR- refer Section Q37-130.

10. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
    - Bauder Parapet Emergency Overflow Stainless Steel DN 70 (Where required) Installation as clause 784G.
    - Bauder GRP edge trim (Where required) to all perimeter kerbs – Profile: Client to confirm. Colour: Client to confirm. Installation, as clause 785.
    - Bauder lightning conductor clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.
11. Additional Requirements: As clauses 210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer clause 950C.

113A Built-up reinforced bitumen membrane warm deck roof system - Core - Concrete Deck (NB)

1. Description: Roof type RFS-FW2A (area over habitable heated space)
2. Substrate: 'Part' Structural Concrete Deck.
    - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
    - Roof falls to be provided by the tapered insulation scheme.
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
    - No hollows, deflections or back-falls, wood float finished and fully cured.

    2.1. Preparation: As clause 610C.
3. Primer type and application: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
4. Air & vapour control layer (All Areas Except ‘Torch-Free’ Zone): Bauder EVA35, 3.5mm thick aluminium lined, elastomeric bitumen torch applied air and vapour control layer. Installation as clauses 670D, 710.

    4.1. Air & vapour control layer to upstands and detailing (‘Torch-Free’ / ‘Safe to Torch’ Zone): : BauderTEC KSD FBS, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses 670G, 710.
    Please note: Areas where a self-adhesive AVCL is used, should be primed with Bauder Activator-Primer (Canister), APR01-Black.
5. Insulation: · BauderPIR FA G16 Tapered insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
    - The scheme may incorporate the use of aluminium foil faced BauderPIR FA-TE Flatboard insulation installed as base-layer(s), and BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) where required. BauderPIR FA G16 Tapered and BauderPIR FA-TE Flatboard has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
    - Please refer to the Bauder Tapered Insulation Layout drawing for individual board thickness, number of layers and number of ridge & Valley infills required.
    - Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing supplied to achieve the required U value (refer Clause 230).
    - BauderPIR T KL 50 angle fillets 50 mm x 50 mm for use with insulated & un-insulated upstands.
    - Installation as clauses 680G and 775.

6. Insulating vertical upstands: BauderPIR FA-TE flatboard, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation.
   The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal 30mm thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
   This insulation will be a minimum of 300mm in height from the deck surface to the top of the upstand and will ideally be fitted before the flat insulation so that it is retained at the base. Bauder Insulated Upstand Support Brackets should be installed to secure the top and provide a hard-leading edge.
   Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated with 60mm thick BauderPIR FA-TE flatboard insulation to achieve a maximum U value of 0.35W/m²K.
   Installation as clause 681B.
7. Waterproof covering: Bauderflex System or acceptable equivalent.
   7.1. System manufacturer: Bauder Limited or acceptable equivalent.
   7.2. Primer: Bauder Activator-Primer (Canister), APR01-Black, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause 660B.
   7.3. Underlayer: BauderTEC Sprint DUO, 2 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.
   7.4. Attachment: As clauses 710, 747A.
   7.5. Top layer / Cap sheet: BauderFLEX K4E, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey.
   7.6. Attachment: As clauses 710, 750A.
   7.7. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.
8. Surface protection: N/A
9. Surfacing: Designated areas of maintenance access walkway defined using Bauder capping sheet, in a contrasting colour finish. Install as clause 863.
10. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
    - Bauder Parapet Emergency Overflow Stainless Steel DN 70 (Where required) Installation as clause 784G.
    - Bauder GRP edge trim (Where required) to all perimeter kerbs – Profile: Client to confirm. Colour: Client to confirm. Installation, as clause 785.
    - Bauder lightning conductor clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.
11. Additional Requirements: As clauses 210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer clause 950C.

113B Built-up reinforced bitumen membrane warm deck roof system - Core - Timber Deck (NB)

1. Description: Roof type RFS-FW2B (Area over exposed un-heated apace)
2. Substrate: Metal grating deck as L30/461 overlad with marine plywood paneling.
   - For the purpose of the tapered insulation scheme design, the roof deck is assumed to be level.
   - Roof falls to be provided by the tapered insulation scheme.
   - The design should take account of construction tolerances, permitted deviations and

deflections under load, as per Item 4.4 of BS6229:2018 (making provision for any anticipated inherent deflection in the metal decking that may occur).
- No deflections or back-falls.
- Decking should be designed with independent metal upstands as L30/461.

2.1. Preparation: As clause 610B.

3. Primer type and application: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660B.

4. Air & vapour control layer (All Areas Except 'Torch-Free' Zone): Bauder EVA35, 3.5mm thick aluminium lined, elastomeric bitumen torch applied air and vapour control layer. Installation as clauses 670D, 710.

4.1. Air & vapour control layer to upstands and detailing ('Torch-Free' / 'Safe to Torch' Zone): : BauderTEC KSD FBS, 2.5 mm thick aluminium lined, elastomeric bitumen self-adhesive air and vapour control layer mica finish. Installation as clauses 670G, 710.

5. Insulation: · BauderPIR FA G16 Tapered insulation scheme, aluminium foil faced, highly efficient rigid urethane insulation.
- The scheme may incorporate the use of aluminium foil faced BauderPIR FA-TE Flatboard insulation installed as base-layer(s), and BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) where required. BauderPIR FA G16 Tapered and BauderPIR FA-TE Flatboard has a zero ODP and a Green Guide Rating of 'A', for the Environmental Product Declaration (EPD) information refer to EPD-IVP-20160147-IBE1-EN.
- Please refer to the Bauder Tapered Insulation Layout drawing for individual board thickness, number of layers and number of ridge & Valley infills required.
- Installation strictly in accordance with the Bauder Tapered Insulation Layout drawing supplied to achieve the required U value (refer Clause 230).
- BauderPIR T KL 50 angle fillets 50 mm x 50 mm for use with insulated & un-insulated upstands.
- Installation as clauses 680G and 775.

6. Insulating vertical upstands: BauderPIR FA-TE flatboard, aluminium foil faced, zero ODP, highly efficient rigid urethane insulation.
The vertical upstand(s) should be insulated, typically an external wall to a conditioned/habited space will be insulated in its own right e.g. a cavity wall, but there is still a requirement for a nominal 30mm thickness of insulation on the external face of the wall to reduce thermal bridging at the roof/wall intersection.
This insulation will be a minimum of 300mm in height from the deck surface to the top of the upstand and will ideally be fitted before the flat insulation so that it is retained at the base. Bauder Insulated Upstand Support Brackets should be installed to secure the top and provide a hard-leading edge.
Rooflight upstands (e.g. Builder's Kerbs) that are not supplied by the rooflight supplier as part of the rooflight assembly must be insulated with 60mm thick BauderPIR FA-TE flatboard insulation to achieve a maximum U value of 0.35W/m²K.
Installation as clause 681B.

7. Waterproof covering: Bauderflex System or acceptable equivalent.

7.1. System manufacturer: Bauder Limited or acceptable equivalent.

7.2. Primer: Bauder Activator-Primer (Canister), APR01-Black, applied to the upper surface of the Bauder insulation. For application method and guidance information, refer clause 660B.

7.3. Underlayer: BauderTEC Sprint DUO, 2 mm thick, 200g/m² glass-fibre reinforced, elastomeric self-adhesive bitumen underlayer.

7.4. Attachment: As clauses 710, 747A.

7.5. Top layer / Cap sheet: BauderFLEX K4E, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey.

7.6. Attachment: As clauses 710, 750A.

7.7. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.

8. Surface protection: N/A
9. Surfacing: Designated areas of maintenance access walkway defined using Bauder capping sheet, in a contrasting colour finish. Install as clause 863.
10. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
    - Bauder Parapet Emergency Overflow Stainless Steel DN 70 (Where required) Installation as clause 784G.
    - Bauder GRP edge trim (Where required) to all perimeter kerbs – Profile: Client to confirm. Colour: Client to confirm. Installation, as clause 785.
    - Bauder lightning conductor clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.
11. Additional Requirements: As clauses 210, 230, 515, 520, 560, 561, 562, 910, 940.
12. Guarantee information: Refer clause 950C.

130A Built-up reinforced bitumen membrane cold deck roof system (CC)

1. Description: Roof type RFS-FC1
2. Substrate: Strip and remove the existing waterproofing system back to the existing structural screeded structural concrete deck.
    Existing falls estimated to be 1:80 or greater. - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.

    Please note all existing falls to be confirmed following strip and removal of existing waterproofing back to the existing structural screed.

    2.1. Preparation: As clauses 620C.
3. Primer: Bauder Activator-Primer (Canister), APR01-Black or Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
4. Waterproof covering: Bauderflex System or acceptable equivalent.
    4.1. System manufacturer: Bauder Limited or acceptable equivalent.
    4.2. Underlayer: Bauder EGV 35 TF, 3.5 mm thick, 100g/m² glass-fibre reinforced, elastomeric torch applied bitumen underlayer.
        4.2.1. Attachment: As clauses 710, 740A.
    4.3. Top layer / cap sheet: BauderFLEX K4E, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen torch applied capping sheet, charcoal grey finish.
        4.3.1. Attachment: As clauses 710, 750A.
    4.4. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.
5. Surface protection: N/a.
6. Surfacing: Designated areas of maintenance access walkway defined using Bauder capping sheet, in a contrasting colour finish. Install as clause 863.
7. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used

within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
- Bauder Parapet Emergency Overflow Stainless Steel DN 70 (where required) Installation as clause 784G.
- Bauder GRP edge trim (where required) to all perimeter kerbs – Profile: Client to confirm Colour: Client to confirm. Installation, as clause 785.
- Bauder Lightning Conductor Clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.

8. Additional Requirements: 210, 515, 520, 560, 561, 562, 910, 940.
9. Guarantee information: Refer clause 950C.

130B Built-up reinforced bitumen membrane cold deck roof system (Ancillary Buildings)

1. Description: Roof type RFS-FG2
2. Substrate: Structural Concrete Deck
    - Designed with a fall of 1:40 to a to ensure a minimum finished drainage fall of 1:80 is achieved.
    - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
    - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
    - No hollows or back-falls, wood float finished and fully cured.

    2.1. Preparation: As clauses 610C.
3. Primer: Bauder Quick Dry Bitumen Primer, applied to the roof substrate and all upstands and skirtings. For application method and guidance information, refer clause as clause 660A.
4. Waterproof covering: Bauderflex Green System or acceptable equivalent.
    4.1. System manufacturer: Bauder Limited or acceptable equivalent.
    4.2. Underlayer: Bauder EGV 35 TF, 3.5 mm thick, 100g/m² glass-fibre reinforced, elastomeric torch applied bitumen underlayer.
        4.2.1. Attachment: As clauses 710, 740A.
    4.3. Top layer / cap sheet: BauderPLANT E 42, 4.2mm thick, 250g/m² polyester reinforced, elastomeric bitumen root resistant, torch applied capping sheet, green slate finish.
        4.3.1. Attachment: As clauses 710, 750B.
    4.4. Flashings and detail work: BauderFLEX K4E capping sheet, mineral slate finish as per main field area. Install as clauses 773, 775 & 777.
5. Surface protection: N/a.
6. Surfacing: Extensive green roof landscaping - refer Section Q37-130.
7. Accessories: - Bauder Bitumen Compact Vertical Outlet DN 100 or Bauder Bitumen Vertical Outlet DN 70 / DN 150, (as appropriate) complete with pre-attached bitumen connection flange and dome grating. To be supplied and installed – quantity as required. When this outlet is used within a warm roof construction with insulation depth 60mm or greater, the Bauder Extension Unit (supplied separately) must be used. Installation as clause 784A.
- Bauder Parapet Emergency Overflow Stainless Steel DN 70 (where required) Installation as clause 784G.
- Bauder GRP edge trim (where required) to all perimeter kerbs – Profile: Client to confirm Colour: Client to confirm. Installation, as clause 785.

- Bauder Lightning Conductor Clips (where required) – Type 4 for PVC coated tapes and uncoated tapes. Installation, as clause 786.

8. Additional Requirements: 210, 515, 520, 560, 561, 562, 910, 940.
9. Guarantee information: Refer clause 950C.

Performance

205 Completion of design of roof coverings

1. Requirement: Complete the detailed design to satisfy specified performance criteria and coordinate with the detailed design of related and adjacent work.
2. Structural and fire requirements: To structural engineer and fire consultant information.
3. Additional requirements: Responsibility and coordination at design interfaces.
4. Design and production information: As preliminaries specification.

210 Roof performance

1. General: Secure, free-draining and weathertight.

230 Insulation

1. Requirement: Determine type and thickness of insulation and integral or separate overlay to satisfy the following criteria:
   1.1. Thermal transmittance of roof (maximum): - J41/110: 0.18W/m²K (120mm average)
   - J41/111 0.11W/m2K (200mm average)
   - J41/112: 0.11W/m²K (200mm average)
   - J41/113A: 0.26W/m²K (140mm average)
   - J41/113B: No U-value required. Tapered insulation required for falls and continuous roof surface.

   1.2. Finished surface: Suitably even, stable and robust to receive roof covering.

   1.3. Insulation compliance: To relevant European Standard, or Agrément certified.

   1.4. Fire: To be provided as part of B Roof(t4) certified system to BS EN 13501-5.
   Declare all material combustibility to BS EN 13501-1 for inclusion in record information.

   1.5. General: Where Tapered Insulation is required, the thickness stated above is an approximate average thickness. Actual U-Value and min/max insulation thicknesses achieved for tapered areas to be confirmed with manufacturer.

Products

330 Timber trims, etc.

1. Quality: Planed. Free from wane, pitch pockets, decay and insect attack (except ambrosia beetle damage).
2. Moisture content at time of covering (maximum): 22%.
3. Preservative treatment: To WPA Commodity Specification C8. Organic solvent based timber preservatives are not permitted, as may affect the waterproofing.

331 Preformed Metal Hard Edged Insulation Protection Angles

1. Material: Galvanised mild steel
2. Thickness: 1mm
3. Dimensions: 50mm x 50mm

4. Length: 3m max.

Execution generally

515 Adverse weather

1. General: Do not lay coverings in high winds, wet or damp conditions or in extremes of temperature unless effective temporary cover is provided over working area.
2. Unfinished areas of roof: Keep dry. Protect edges of laid membrane from wind action.

520 Incomplete work

1. End of working day: Provide temporary seal to prevent water infiltration.
2. On resumption of work: Cut away tail of membrane from completed area and remove from roof.

560 General Workmanship Requirements

1. Installation of the Bauder waterproofing system may only be carried out by trained and certified operatives approved by Bauder Ltd and who carry current ID badges. These should be available for inspection at all times.
2. Workmanship must comply with Codes of Practice BS 8217:2005 (or alternatively Bauder Ltd.'s specification where otherwise stated). Non-compliant workmanship will not be permitted, even if the system is watertight. The client will be told that all such faults must be remedied, before the Guarantee is issued.
3. All waterproofing materials and system components must be supplied by Bauder Ltd, unless otherwise stated. Any sub-standard materials or un-authorised alternatives will be rejected. Any building work which is the responsibility of the roofing contractor and has a bearing on the life of the Bauder System must be carried out by properly trained and qualified tradesmen.
4. Any structural damage, peculiarities or details discovered that might affect the performance of the Bauder system, should be reported immediately to the client's representative and Bauder Limited in order that they may assist in overcoming the problem.
5. At the end of each working day, the new waterproofing should be terminated with a secure and waterproof temporary seal, which will be left in situ, utilising Bauder self-adhesive underlayer material (e.g. BauderTEC Sprint DUO) to create the seal. The Bauder self-adhesive underlayer should be extended onto the flat AVCL by a minimum of 200mm from the exposed edge of the insulation and heat activate to ensure a satisfactory seal.
   To ensure that no moisture contamination of the system can occur between each working period, it is essential that the night seal is properly and securely bonded.
6. Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new membranes. The final inspection will not be carried out by the Bauder Site Technician or the Bauder nominated Independent surveyor until all associated trades are complete and the roof areas are clear from all debris and protection layers.
7. It is imperative that the Bauder Approved Contractor conforms to the workmanship criteria as listed above. Any deviation will result in the contract being considered unguaranteeable.
8. All mechanical and electrical work to plant and equipment should be carried out by competent mechanical and electrical qualified tradesmen. All plant is to be reinstated and re-commissioned on completion of the roofing works in accordance with the client's detailed specification.
9. Where building works are to be carried out by other trades, following completion of the waterproofing, the contractor must make adequate provision for supplying protection to prevent damage to the new waterproofing.

10. If any items of plant/equipment are to be situated on the finished roof, a sacrificial layer of Bauder capping sheet is to be loose laid beneath. This is to extend a minimum 25mm past the point of contact on all sides. In the case of heavy items it may be necessary to introduce a load-spreading slab, please contact Bauder for further advice.
11. All lead work to be carried out by skilled tradesmen and in accordance with current codes of practice and the recommendations of the Lead Sheet Manufacturer.

561 Site Inspections

1. Bauder Site technicians will carry out regular inspections of the project during the course of the works.
2. Bauder must be notified when the roof is ready for final inspection and all related works and snagging complete. See also clause 910

Substrates/ air and vapour control layers/ warm deck roof insulation

610B Suitability of substrates

1. Substrates generally: - Secure and properly fastened to the sub-structure, clean, dry, smooth, free from frost, corrosion, contaminants, loose material, damage and protrusions.
   - Compatible with waterproofing / coating system.
2. Substrate design: The metal deck should be of a suitable type/profile to support the overlay panels. Overlay panels should be either:
   - Plywood should conform to BS EN 636-3 condition of Use Service Class 3 (Exterior) and Use Class 3, minimum 18mm thickness as specified by client.
   - OSB/3 should conform to BS EN 300 & CPD/CE, minimum 18mm thickness as specified by client.
3. Setting out: The new deck, should be fixed directly to either the joists or firings using non corroding ring shank nails/recommended screw fasteners or should be fixed directly to the structural metal deck crowns using the appropriate grade steel or stainless-steel screw fasteners.
   - All board edges should be fully supported by the metal deck crowns with the long edges at right angles to the troughs in the metal deck.
   - Board joints to be close butted and staggered in accordance with BS 8217. Expansion gaps between boards on long and short edges to be 3mm.
4. Fasteners: As recommended by panel manufacturer. One fastener per crown along each long edge and at 300mm centres along every alternate crown.
5. Fastener heads: Flush with, or below the boards surface.
6. Moisture content and stability of substrate: The deck should be protected from wetting during transportation, storage and installation on site before the Waterproofing System is installed. Before installing the waterproofing system, moisture readings should be taken into the timber deck and not just the surface. The results should be recorded. Readings should be no more than 20%.
7. Surface preparation: All such items to be rectified as necessary to eliminate the possibility of puncturing the new waterproofing system.
8. Deck Falls: Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
   - No deflections or back-falls shall be present.
   - Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - An Engineer's deflection analysis and site level survey should be consulted before

commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.

9. Preliminary work: Complete including:
   - Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.
   - Fixing of battens, fillets and anchoring plugs/strips as required
10. Preparation: The approved waterproofing contractor is to inspect the installed deck and report any issues, including insufficient falls, that may have a detrimental effect upon the waterproofing system to both the Clients representative and Bauder Limited.
11. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, or any foreign matter detrimental to the adhesion of the waterproofing system.

610C Suitability of substrates

1. Substrates generally: - Firmly fixed, secure, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions, and organic growths.
   - Compatible with waterproofing / coating system.
2. Substrate design: New concrete substrates and structures should be designed and constructed in accordance with:
   - BS EN 1992-1-1:2004 Eurocode 2: Design of concrete structures. General rules and rules for buildings (+A: 2014).
   - BS 8500-2:2015 Concrete - complimentary British Standard to BS EN 206. Specification for constituent materials and concrete (A2: 2019).
   - BS EN 206:2013 Concrete - Specification, performance, production and conformity.
   - The maximum permissible departure from datum, in accordance with BS 8204-2:2003+A2:2011 Screeds, bases and in situ floorings Concrete wearing surfaces Code of practice shall be SR2 (5mm).
3. Concrete density: In-Situ Concrete density should be as per the structural engineers specification and no less than 1842kg/m3 for hotmelt applications.
4. Moisture content and stability of substrate: Must not impair the integrity of roof with a target moisture content of ≤5%.
   - Concrete should be allowed to hydrate (cure) for 28 days (unless specific information is made available regarding variations in concrete specification and design). To avoid premature drying out, employ measures to minimise early age thermal cracking. Surface shall be dry.
   - In-Situ concrete placed into a vented profiled metal deck permanent shuttering may take a minimum of 60 days to cure.
   - Pre-Cast Concrete Planks should be fully cured prior to delivery to site.
   - A minimum of 14 days from concrete installation should be allowed before 'Peel Bond Tests' are carried out with Bauder in attendance. If successful adhesion tests are carried out in accordance with Bauder requirements, installation of the waterproofing system can commence. Further guidance is provided in BS 8217:2005 clause 5.1.2 and 6.7.
5. Surface Applied Curing Compounds: - Details of Surface Applied Curing Compounds (Sodium Silicate preferred) proposed or used shall be provided to the Bauder Approved Contractor/Bauder Technical Department to ensure compatibility with the waterproofing system specified. Please refer to BS 13670:2009. Other acceptable curing methods are Water Cure, Wet Coverings, Plastic Sheets.
   - Surface Applied Curing Compounds that have been used and identified as incompatible with the specified waterproofing system shall be removed via scarification or sandblasting or alternative method approved by Bauder Technical.
6. Concrete Surface Finish: Concrete Surfaces shall be to a wood float, wood trowelled equivalent, broom or Bauder Approved finish and uniform. Steel float finishes and overworking of the

concrete can lead to laitance, which will need to be removed prior to priming. Please refer to the manufacturer's Installation and Quality Assurance Manual for important information.

7. Deck Falls: Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
   - No deflections or back-falls shall be present.
   - Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.
   - The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   - An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.
8. Preliminary work: The new concrete to be allowed to cure thoroughly, remove rough edges, and surface defects. Rough surfaces should be scarified or ground to achieve acceptable surface for waterproofing.
   Complete including:
   - Application of surface screed to create falls if specified, or to remove surface irregularities.
   - Open concrete plank joints should be grouted with sand and cement prior to specified waterproofing installation.
   - Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired or reinforced before application of the membrane.
   - Formation of abutment upstands, kerbs, box gutters, sumps, grooves, chases (raggles) and expansion joints.
   - Fixing of battens, fillets and anchoring plugs/strips as required
9. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, or any foreign matter detrimental to the adhesion of the waterproofing system. Any scaling or laitance on the surface of the concrete shall be removed either by scarification, grinding, sandblasting or other Bauder Approved method.
10. Adhesion tests:
    10.1. Requirement: Carry out a test to determine substrate suitability to receive the waterproofing system.
    10.2. Curing times: It is imperative that the concrete substrate is allowed to cure sufficiently as per above recommendations.
    10.3. Nature of test: The contractor shall carry out a "peel" bond test to each roof area to be prepared for waterproofing. The testing should be carried out well in advance of the actual application, in case any remedial treatment is required, or further curing is necessary.
    10.4. Test: Clean a small area of the substrate being tested by using a soft broom/brush to remove any dirt/debris from the surface. Dry surface as required. Apply the specified primer (where required) to the substrate (500mm^2) which must be allowed to dry as per Bauder recommendations. Once the primer has dried, apply the specified AVCL, Underlayer or Membrane as per Bauder recommendations. Leave overnight. Cut a triangular shaped incision through the Bauder AVCL/Underlayer/Membrane in the central zone of the test patch. If the membrane/build-up can be peeled up easily from the substrate, then the substrate is not ready (adhesive failure). This could be due to the deck requiring extra cure time or be an issue of contamination or laitance within the surface. If the membrane/build-up cannot be pulled away and distorts when pulled, then the bond is considered satisfactory.
    (An extended Bauder Peel Bond Test procedure description is available as a .pdf on request).
    We recommend that a second Peel Bond Test is done 24/48 hrs after the first to confirm the security of the first test results.

11. Test results: Submit and arrange for inspection. We recommend that all Peel Bond Tests are recorded via photo or video referencing the location.

620C Suitability of substrate

1. Strip back to the original structural concrete deck / screeded structural concrete deck / screeded structural concrete deck and remove the existing screed. Remove all existing waterproof coverings, including any insulation and air and vapour control layer present. Remove all waterproof detailing to abutment upstands and skirtings.

   If it is discovered that this screed is degraded in any way and is beyond localised repair, it is imperative that the approved roofing contractor informs both the client and Bauder Limited immediately in order that the problem be addressed.
2. Exposed substrate: Do not damage. The substrate should be examined and then prepared by removing any rough edges and/or defects in its surface and repairing any localised damaged areas. Apply a latex levelling screed if the surface is poor/ irregular.
   2.1. Note: an adequate provisional sum should be set aside to cover for any unforeseen issues related to the removal of the existing waterproof covering that may necessitate localised repairs to the existing screeded deck.
3. Substrates Generally
   3.1. Secure and properly fastened to the sub-structure, clean, dry, smooth, free from frost, contaminants, loose material, voids, protrusions and organic growths.
   3.2. Compatible with waterproofing / coating system.
4. Moisture content and stability: Must not impair the integrity of roof with a target moisture content of ≤5%.
5. Concrete surface finish: Concrete Surfaces shall be to a wood float finish and uniform. Any scaling or laitance on the surface of the concrete shall be removed either by scarification, grinding, sandblasting or other Bauder Approved method. Please refer to the manufacturer's Installation and Quality Assurance Manual for important information.
6. Deck Falls: Upon Curing of the In-Situ concrete deck. Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
   6.1. No deflections or back-falls shall be present.
   6.2. Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.
   6.3. The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   6.4. An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.
   6.5. An adequate provisional sum should be set aside for carrying out measures to rectify the current falls to the standard required as per the guidance from the latest version of BS6229.
7. Preliminary work: Remove rough edges, and surface defects. Rough surfaces should be scarified or ground to achieve acceptable surface for waterproofing. Complete including:
   7.1. Grouting of deck slab joints.
   7.2. Application of surface screed to create falls if specified, or to remove surface irregularities.
   7.3. Open concrete plank joints should be grouted with sand and cement prior to specified waterproofing installation.

7.4. Voids, cracks, holes, honeycombs and other damaged horizontal or vertical surfaces shall be repaired or reinforced before application of the membrane.

7.5. Formation of abutment upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints.

7.6. Fixing of battens, fillets and anchoring plugs/strips as required.

8. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, curing compounds of any foreign matter detrimental to the adhesion of the waterproofing system. Any scaling or laitance on the surface of the applied screed shall be removed by a Bauder Approved method.

9. IMPORTANT NOTE: Where it has not been possible to ascertain whether there is existing insulation; should it be discovered that existing insulation is found within the ceiling void space, there may be a requirement for this to be removed to prevent interstitial condensation forming. Please contact Bauder in order that the build-up and proposals are assessed before works commence/continue.

10. ADHESION TESTS

10.1. Requirement:

10.1.1. Arrange and carry out a Peel Bond Test to determine substrate suitability to receive the Bakor 790- 11 Hot Melt Waterproofing system.

10.1.2. Curing times: It is imperative that the concrete substrate is allowed to cure sufficiently as per above recommendations.

10.1.3. Nature of test: The contractor shall carry out a “peel” bond test to each roof area to be prepared for waterproofing (or a minimum of 1no. PBT every 75-100m2). The testing should be carried out well in advance of the actual application, in case any remedial treatment is required, or further curing is necessary.

10.1.4. Test: Clean a small area of the substrate being tested by using a soft broom/brush to remove any dirt/debris from the surface. Dry surface as required. Apply the specified primer to the substrate (500mm^2) which must be allowed to dry as per Bauder recommendations. Once the primer has dried, apply the specified AVCL or underlayer as per Bauder recommendations. Leave overnight. Cut a triangular shaped incision through the AVCL/Underlayer in the central zone of the test patch. If the membrane/build-up can be peeled up easily from the substrate, then the substrate is not ready (adhesive failure). This could be due to the deck requiring extra cure time or be an issue of contamination or laitance within the surface. If the membrane/buildup cannot be pulled away and distorts when pulled, then the bond is considered satisfactory. (An extended Bauder Peel Bond Test procedure description is available as a .pdf on request). We recommend that a second Peel Bond Test is done 24/48 hrs after the first to confirm the security of the first test results.

10.1.5. Test results: Submit and arrange for inspection. We recommend that all Peel Bond Tests are recorded via photo or video referencing the location.

625D Strip existing waterproofing back to existing asphalt covering

1. Strip back to existing asphalt surface:

1.1. Carefully remove all the existing waterproof coverings from the surface of the asphalt, including all surface chippings, debris etc. from the surface of the existing asphalt. Remove any felt patch repairs, loose or flaking solar reflective paint, liquid overlays etc.

1.2. Remove all redundant screed vent pipes that may be present, discard and make good the surface.

1.3. Carefully cut away and remove the existing asphalt skirting from all upstands and perimeter edges before preparing the exposed surfaces to receive the new waterproofing.

1.4. Repair all cracks and blows in the asphalt and prepare so as to leave a smooth even surface. All deflected areas of asphalt are to be levelled up to minimise the risk of standing water.

2. Exposed substrate: Do not damage.
3. Substrates Generally
   3.1. Secure and properly fastened to the sub-structure, clean, dry, smooth, free from frost, corrosion, contaminants, loose material, damage and protrusions.
   3.2. Compatible with waterproofing / coating system.
4. Moisture content and stability: Must not impair integrity of roof.
5. Deck Falls: Refer to clauses 110/120/130 above (where applicable) for roof specific requirements.
   5.1. No deflections or back-falls shall be present if the deck is designed to achieve a zero-falls finished surface.
   5.2. Falls are to comply with the drainage requirements of BS 6229:2018 and current codes of practice BS 8217:2005.
   5.3. The design should take account of construction tolerances, permitted deviations and deflections under load, as per Item 4.4 of BS6229:2018.
   5.4. An Engineer's deflection analysis and site level survey should be consulted before commencement of waterproofing. Measures to rectify back-falls or deflection shall be undertaken by the deck installer/supplier prior to commencement of the waterproofing system.
   5.5. An adequate provisional sum should be set aside for carrying out measures to rectify the current falls to the standard required as per the guidance from the latest version of BS6229.
6. Preliminary work: Complete including:
   6.1. Formation of upstands, kerbs, box gutters, sumps, grooves, chases and expansion joints and battens.
   6.2. Fixing of battens, fillets and anchoring plugs/strips as required.
7. Preparation: The approved waterproofing contractor is to inspect the installed deck and report any issues, including insufficient falls, that may have a detrimental effect upon the waterproofing system to both the Clients representative and Bauder Limited.
8. Priming: Before priming and application of the membrane, the substrate shall be clean and dry, free from surface water, ice, snow or frost, dust, dirt, oil, grease, or any foreign matter detrimental to the adhesion of the waterproofing system.
9. IMPORTANT NOTE: Where it has not been possible to ascertain whether there is existing insulation; should it be discovered that existing insulation is found within the ceiling void space, there may be a requirement for this to be removed to prevent interstitial condensation forming. Please contact Bauder in order that the build-up and proposals are assessed before works commence/continue.

640 Fixing timber trims

1. Fasteners: Type/length appropriate and suitable to particular deck substrate.
2. Fixing centres (maximum): 500 mm.
3. Timber trims: Refer to clause 330.

641 Installing preformed metal hard edge insulation protection angles

1. Location: Use to provide hard edge protection at all internal gutter channels on warm roofs where the insulation from the flat area steps down to meet the insulation in the gutter sole.
2. Preparation: Surface to be inspected and cleaned if necessary, using white spirit to remove any contaminants, dirt or dust & primed with the specified Bauder primer. Prepared material to be thoroughly dry before use
3. Installation: The 50 x 50 mm galvanised mild steel angle to be adhered to the exposed leading edge of the insulation using the specified Bauder primer along the upper surface/edge. The purpose being to retain the metal in position to prevent any post-installation movement.

660A Applying primer

1. Either: Bauder Activator-Primer (Canister) APR01-Black
    1.1. Purpose: Substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of Bauder self-adhesive bitumen membranes.
    1.2. Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.
    1.3. Application method: Spray Applied to provide even and full coverage. Avoid pooling. Never attempt torching within 10 min of primer application, even if the surface appears dry.
    1.4. Application rate:
        - 300mm wide spray
        - Coverage: Approx. 96 g/m²
        - Two coats may be required for very porous substrates.
    1.5. Application temperature: +5 - +30°C
    1.6. Drying time: Approx.5 - 10 mins, dependent upon ambient temperature and material porosity.
    1.7. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.
    1.8. Re-application: Necessary after 4 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.
    1.9. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.
2. Or: Bauder Quick Dry Bitumen Primer.
    2.1. Purpose: Quick drying substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of Bauder bituminous waterproof membranes.
    2.2. Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.
    2.3. Application method: Apply a thin even coat using a brush or roller to provide full coverage. Avoid pooling.
    2.4. Application rate: Between 4-8 m² per litre, dependent upon substrate porosity
    2.5. Application temperature: 5-25°C
    2.6. Drying time: 3-6 hours dependent upon ambient temperature and substrate porosity.
    2.7. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats. Never attempt torching within 30 min of primer application, even if the surface appears dry.
    2.8. Re-application: Necessary after 24 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.

2.9. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system

660B Applying primer

1. Bauder Activator-Primer (Canister) APR01-Black
   1.1. Purpose: Substrate primer to seal and prepare dry surfaces of a variety of common substrate material prior to the application of Bauder self-adhesive bitumen membranes.
   1.2. Before application: All surfaces must be dry, clean and free from dust, dirt, oil, grease and loose material.
   1.3. Application method: Spray Applied to provide even and full coverage. Avoid pooling. Never attempt torching within 10 min of primer application, even if the surface appears dry.
   1.4. Application rate:
   - 300mm wide spray
   - Coverage: Approx. 96 g/m²
   - Two coats may be required for very porous substrates.
   1.5. Application temperature: +5 - +30°C
   1.6. Drying time: Approx.5 - 10 mins, dependent upon ambient temperature and material porosity.
   1.7. Coats: Fully bond. Allow volatiles to dry off thoroughly between coats.
   1.8. Re-application: Necessary after 4 hours exposure if waterproofing has not yet been applied, to maintain adhesion performance.
   1.9. Caution: Use only outdoors in well ventilated areas or with respiratory apparatus and keep away from all sources of ignition. Take necessary precautions to avoid the solvent vapour from entering the buildings ventilation system.

670D Laying air and vapour control layer

1. Attachment: Generally, fully bonded to deck substrate in accordance with manufacturer's requirements.
   1.1. New Concrete Decks: For new concrete, the air and vapour control layer should be partially bonded (in the approved Bauder manner) to meet the requirements of the current codes of practice.
   1.2. Timber Boarded / Cross Laminated Timber Decks: First layer random nailed, as clause 355/720. Second layer, AVCL fully bonded to first layer in accordance with Bauder requirements.
   1.3. Joints in second layer (Timber Boarded / Cross Laminated Timber Decks Only): Stagger by half a sheet.
2. Side and end laps: minimum 100 mm, with all laps torch sealed to provide a continuous bitumen bead extrusion. Installation methods as recommended by manufacturer.
3. Penetrations: Fully seal using bonding methods recommended by manufacturer.
4. Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like: Enclose, with air and vapour control layer:
   - Dressed up 150 mm above surface of insulation, thus providing 100 mm (minimum) seal when overlapped by the roof covering.

670G Laying air and vapour control layer

1. Attachment: Cold applied and fully bonded to substrate in accordance with Bauder's requirements.

1.1. Metal Decks: With metal decks the sheets should run in the direction of the crowns/troughs, with laps formed on the crowns of the deck to ensure that they are fully supported in accordance with Bauder requirements. To ensure side laps of the air and vapour control layer (AVCL) are fully supported, they will need to have the width cut to suit the profile of the deck or larger laps should be formed. To support end laps, cut approximately 200mm strip off the end of the AVCL roll and apply it taut across the troughs where the roll ends will meet.

1.2. Timber Boarded / Cross Laminated Timber Decks: First layer random nailed, as clause 355/720. Second layer, BauderTEC KSD FBS cold applied and fully bonded to substrate in accordance with Bauder requirements.

2. Side and end laps: minimum 100 mm, with all laps torch sealed to provide a continuous bitumen bead extrusion. Installation methods as recommended by manufacturer.

3. Penetrations: Fully seal using bonding methods recommended by manufacturer.

4. Edges of insulation at roof edges, abutments, upstands, kerbs, penetrations and the like: Enclose, with air and vapour control layer:
The air and vapour control layer must be dressed up all upstands and to the full extent of the detail. This is to ensure that the detail is fully encapsulated to reduce the risk to exposed combustible materials. The contractor is also to form all details in such a way that the underlayer is fully bonded to the air and vapour control layer to the full extent of the detail ensuring in a minimum fully bonded 100mm lap with the air and vapour control layer – please see Bauder Bituminous detail drawings.
- Care should be taken to ensure adhesion when the temperature is below + 5° C.

680D Laying warm roof insulation

1. Setting out

1.1. Long edges: Fully supported

1.2. End edges: Fully supported.

1.3. Joints: Close butted together.

1.4. End joints: Stagger.

2. Bedding: Bonded to the upper surface of the air and vapour control layer (AVCL) using suitable Bauder Polyurethane Insulation Adhesive. (Product selection assistance available from Bauder). The adhesive should be applied in strips following the direction of the board length. Giving continuous and equally spaced adhesive beads within each board width as indicated below:

2.1. 600mm width insulation boards - 2 no: (increase to 3 no. at roof perimeter)*

2.2. 800mm width insulation boards - 3 no: (increase to 4 no. at roof perimeter)*

2.3. 1000mm width insulation boards - 4 no: (increase to 6 no. at roof perimeter)*

2.4. Adhesive bead widths or adhesive spray patterns and coverage rates are stated on appropriate product label and datasheet.

3. Multiple-layer tapered systems: Where the total thickness of insulation required is greater than can be achieved by a single standard board, additional boards can be adhered to the previous layer (s) to make up the total thickness required.

3.1. Foil to Foil Insulation Boards Only: These additional boards should be bonded using either Bauder Activator Primer (Canister) – APR01-Black or Bauder PU Insulation Adhesive – Twin Cartridge.

3.2. Foil to Tissue Faced Boards: These additional boards should be bonded using suitable Bauder Insulation Adhesive.
Adhesives applied in strips following the direction of the board length giving continuous

and equally spaced adhesive beads within each board width (as indicated above). The second layer of boards should be laid off-set and staggered.

4. Protection to exposed edges of insulation: Reduced thickness treated timber hard edge as clause 640 (or equivalent plywood construction), suitably sized and 10mm less in thickness than the insulation to accommodate the build-up of the waterproofing layers – all securely fixed to the deck. Outer edges chamfered at changes in level.
5. Completion: Boards must be in good condition, well-fitting and stable.
6. Adequate falls: The inclusion of flat board insulation will not improve upon the existing fall present within the roof structure. The deck should be inspected by the installer to ascertain that the falls provided are adequate to prevent standing water. In the event of any queries Bauder Ltd should be contacted.
7. IMPORTANT NOTES:
    7.1. Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost surface of insulation prior to installation of the self-adhesive underlayer.
    7.2. Adhesive bead widths, spray patterns and coverage rates are stated on the appropriate product label and datasheet.
    7.3. Foil to Foil installation (e.g. FA-TE to FA-TE) must not be carried out using the 6.5kg Bauder PU Insulation Adhesive – Tin.
    7.4. Foil to AVCL installation (e.g. FA G16 Tapered directly to KSD FBS) must not be carried out using Bauder Activator Primer (Canister) – APR01-Black.
    7.5. *BS EN 1991-1-4 uses the following guidance to calculate perimeter zones. Buildings up to and including 10m in height have a perimeter zone of not more than 2m. Buildings over 10m, uses the calculation of 2 x the building height ÷ 10. These are general guidance rules and do not take into account all of the information used in a full wind uplift calculation, they are therefore superseded by a project specific calculation.

680G Laying warm roof insulation (Bauder PIR FA Tapered - Both single and multi layer)

1. Before installing: No insulation boards should be laid on site without a copy of the current Bauder Tapered Insulation Layout drawing to hand.
Contractors should always refer to the Layout Drawing for the recommended start point and layout of boards. If contractors are unsure whether the correct Layout Drawing is on site, they should contact the Bauder Technical Department before commencing installation. For installation guidance, Contractors should refer to the BauderPIR FA Tapered Installation Guide.
2. Deck Suitability: Bauder cannot be held responsible for the drainage performance of tapered insulation schemes applied to an inappropriate deck surface and it is the responsibility of the installing contractor to check the roof deck surface and report any discrepancies.
3. Thermal performance: Refer to Bauder Tapered Insulation Layout drawing for details of the ‘U’ values achieved by this scheme and clause 230.
4. Wastage: All off-cuts are considered usable and are included as such within the insulation Layout.
5. Setting out: Installation must be carried out using the appropriate Bauder Installation Guide and laid strictly in accordance with the Bauder Tapered Installation Layout drawing and installation instructions. The BauderPIR FA G16 Tapered boards should be laid with the Bauder number / arrow / grid pattern facing upwards.
    5.1. Long edges (where relevant): Fully supported
    5.2. End edges: Fully supported.
    5.3. Joints: Close butted together.
    5.4. End joints: Stagger.

6. Bedding: BauderPIR FA G16 Tapered boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) (unless where a base-layer is required – please see Multiple-layer tapered schemes below) using suitable Bauder Polyurethane Insulation Adhesive
   - 6.1. Bauder PU Insulation Adhesive - Tin or Bauder PU Insulation Adhesive – Twin Cartridge applied in strips following the direction of the board length giving 4No. continuous and equally spaced adhesive beads within each board width (increase to 6No. at the roof perimeter) *
   - 6.2. Non-FA Tapered insulation board types: Where BauderPIR T G Tapered Insulation (Unfaced 1:80 / 1:40 boards) or BauderPIR M Flatboard Insulation (tissue faced boards) are included within the Bauder Tapered Insulation Layout, these boards are to be bonded to the upper surface of the Air and Vapour Control Layer (AVCL) using either Bauder PU Insulation Adhesive - Tin or Bauder PU Insulation Adhesive – Twin Cartridge, applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width as below:
     - 6.2.1. 500mm width BauderVIP TE insulation boards - 2 no: (increase to 3 no. at roof perimeter)*
     - 6.2.2. 600mm width insulation boards - 2 no: (increase to 3 no. at roof perimeter)*
     - 6.2.3. 800mm width insulation boards - 3 no: (increase to 4 no. at roof perimeter)*
     - 6.2.4. 1000mm width BauderVIP TE insulation boards - 4 no: (increase to 6 no. at roof perimeter)*
     - 6.2.5. Adhesive bead widths, spray patterns and coverage rates are stated on the appropriate product label and datasheet.
7. Multiple-layer tapered systems: Where the total thickness of tapered insulation required is greater than can be achieved by a single layer, base-layer board(s) of BauderPIR FA-TE Flatboard can be adhered to the AVCL/previous layer(s) to make up the total thickness required before the uppermost layer of BauderPIR FA G16/ BauderPIR T G Tapered boards are installed.
8. Bedding: As stated above. Surface should be clean and free of debris before application of the additional layer(s)
9. Additional Layer(s): Each additional layer of insulation board(s) should be laid off-set and staggered with the layer below and should be bonded together using the following adhesives:
   - 9.1. Foil to Foil (e.g. FA-TE to FA-TE): Bauder Activator Primer (Canister) – APR01-Black spray applied to the surface of both layers or Bauder PU Insulation Adhesive – Twin Cartridge applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).
   - 9.2. Foil to tissue Faced/unfaced boards (e.g FA-TE to 1:80 tapered boards): Bauder PU Insulation Adhesive - Tin or Bauder PU Insulation Adhesive – Twin Cartridge. Applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above).
10. Tapered Layer (Uppermost layer): The BauderPIR FA G16 Tapered board layer should be bonded using Bauder Activator Primer (Canister) – APR01-Black spray applied to the surface of both layers or Bauder PU Insulation Adhesive – Twin Cartridge applied in strips following the direction of the board length giving continuous and equally spaced adhesive beads within each board width (as stated above). BauderPIR FA G16 Tapered boards should be laid with the Bauder number/arrow/grid pattern facing upwards. Boards should be laid off-set and staggered with the layer below.
    Ridge & Valley Infills: The BauderPIR GFE G16 (ridge infills) & BauderPIR KFS G16 (valley infills) should be bonded using Bauder Activator Primer (Canister) – APR01-Black, spray applied to the tapered board and bottom of the infill giving continuous full coverage of the infill and the area where the infill is to be placed.

11. Protection to exposed edges of insulation: Reduced thickness treated timber hard edge as clause 640 (or equivalent plywood construction), suitably sized and 10mm less in thickness than the insulation to accommodate the build-up of the waterproofing layers – all securely fixed to the deck. Outer edges chamfered at changes in level.
12. Completion: Boards must be in good condition, well-fitting and stable.
13. IMPORTANT NOTES:
    - 13.1. Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost surface of insulation prior to installation of the self-adhesive underlayer.
    - 13.2. Foil to Foil installation (e.g. FA-TE to FA-TE) must not be carried out using the 6.5kg Bauder PU Insulation Adhesive – Tin.
    - 13.3. Foil to AVCL installation (e.g. FA G16 Tapered directly to KSD FBS) must not be carried out using Bauder Activator Primer (Canister) – APR01-Black.
    - 13.4. *BS EN 1991-1-4 uses the following guidance to calculate perimeter zones. Buildings up to and including 10m in height have a perimeter zone of not more than 2m. Buildings over 10m, uses the calculation of 2 x the building height ÷ 10. These are general guidance rules and do not take into account all of the information used in a full wind uplift calculation, they are therefore superseded by a project specific calculation.

681B Installing warm roof insulation (insulated upstands)

1. Bedding: Bonded to the upper surface of the air and vapour control layer (AVCL) using suitable Bauder Polyurethane Insulation Adhesive. The adhesive should be applied in strips following the direction of the board length giving 3 no. continuous and equally spaced adhesive beads within each board width. Upstand insulation boards should be installed before the insulation to the flat areas so that the vertical upstand insulation is retained both at the base and at the top.
   Adhesive bead widths are stated on appropriate product label and datasheet.
   Note: Where the surface is uneven of difficult to bond to, it is permissible to use suitable thermally broken fixings.
2. Multiple board layers: Where the total thickness of insulation required is greater than can be achieved by a single standard board, then additional boards can be adhered to the previous layer(s) to make up the total thickness required. These additional boards should be bonded using suitable Bauder Insulation Adhesive.
    - 2.1. Foil to Foil Insulation Boards Only: These additional boards should be bonded using either Bauder Activator Primer (Canister) – APR01-Black or Bauder PU Insulation Adhesive – Twin Cartridge.
    - 2.2. Foil to Tissue Faced Boards: These additional boards should be bonded using suitable Bauder Polyurethane Insulation Adhesive.
      Adhesive bead widths or adhesive spray patterns and coverage rates are stated on appropriate product label and datasheet.
      The adhesive should be applied in strips following the direction of the board length giving 3 no. continuous and equally spaced adhesive beads within each board width. Upstand insulation boards should be installed before the insulation to the flat areas so that the vertical upstand insulation is retained both at the base and at the top.
      The second layer of boards should be laid off-set and staggered.
      Note: Where the surface is uneven or difficult to bond to, it is permissible to use suitable thermally broken fixings.
3. Insulated upstand brackets: Bauder insulated upstand support brackets must be used at all vertical abutment wall upstands (where the wall cavity is insulated) in conjunction with 30 mm Bauder insulation. These are to be fixed at 400mm centres using suitable fixings through the air and vapour control layer, so that the top edge is a minimum of 300mm above the surface of the deck. A 3mm gap should be left between adjacent sections. The detail is to be carried out in accordance with the Bauder detail drawing, where provided.

4. Protective hard edges: Treated timber battens or Bauder Insulated upstand brackets (as appropriate to given detail situation) must be used at all right-angled edges e.g. top edges of parapet walls or abutment upstands.
5. Encapsulation seal: Provision must be allowed for forming a minimum 100 mm lap seal between the air and vapour control layer and underlayer where the insulation finishes.
6. Important Notes:
   6.1. Bauder Activator-Primer (Canister), APR01-Black, must be applied to the facing of the uppermost surface of insulation prior to installation of the self-adhesive underlayer.
   6.2. Foil to foil installation (e.g. FA-TE to FA-TE) must not be carried out using the 6.5kg Bauder PU Insulation Adhesive (Tin).
   6.3. Foil to AVCL installation (e.g. FA Tapered directly to KSD Mica) must not be carried out using Bauder Activator Primer (Canister) – APR01-Black.

Waterproof membranes/ accessories

710 Laying reinforced bitumen membranes generally

1. Direction of laying: Unrolled up the slope.
   Where practicable, install so that water drains over and not into laps.
2. Side and end laps (minimum): 100 mm, with the exception of mineral surfaced membranes, where side laps are 80 mm, but the head laps to remain 100 mm.
3. Head and side laps: Offset.
4. Intermediate and top layer/Capping sheet: Fully bond.
5. Successive layers: Apply without delay. Do not trap moisture.
6. Strips of bitumen membrane for 'linear' details: Cut from length of roll e.g. gutter sole pieces.
7. Detail flashings: To be cut from width of roll.
8. Completed coverings: Firmly attached, fully sealed, smooth, weather proof and free draining.

740A Torch-on bonding of reinforced bitumen underlayer

1. Bond: Partially bonded in the approved Bauder manner.
2. Laps: Head and side laps to be 100mm. All laps to upstands, edge details, flashings, etc., to be a minimum 100mm. All laps torch sealed to provide a continuous bitumen bead extrusion. The underlayer must be taken up all upstands, edge details, in accordance with current British Standards and Bauder recommendations.
3. Alternative detailing membrane (‘Torch-Free’ & ‘Safe to Torch’ zones): Please refer to clause 773. Provision for prevention of wind uplift (where required):
4. Provision for prevention of wind uplift (where required): Mechanically fix as per the corresponding project specific wind load calculation, using appropriate thermally broken fasteners (for uninsulated roofs as clause 355A and for warm roofs as clause 355B), fixed through to the deck.
5. Fixing of bitumen membranes to vertical upstands: Fixing of bitumen membranes to vertical upstands: Please refer to clause 775.

747A Self-adhesive bonding of reinforced bitumen underlayer

1. Bond: Full over whole surface, with no air pockets. Please note that Bauder Activator-Primer (Canister), APR01-Black, must be applied to the uppermost layer of Bauder Insulation prior to installation of the self-adhesive underlayer.

2. Underlayer: Cold applied and fully bonded by removing the peel off release film. The side laps are to be 100mm and must be laid red over blue, and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) and rolling with the Bauder Long Handled Lap Roller to extrude a continuous bead of bitumen. Head laps to be 100mm and staggered, side laps to be 80mm and heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) to extrude a continuous bead of bitumen. The underlayer must be taken up all upstands, edge details, in accordance with current British Codes of Practice and Bauder recommendations. The underlayer must be fully heat sealed/torched (depending on 'Torch-Free' & 'Safe to Torch' zones) with the air and vapour control layer to the full extent of the detail ensuring a minimum 100mm fully bonded lap - please see Bauder Bituminous detail drawings.
3. Alternative underlayer for detail work: For detailing to un-insulated abutment upstands, where the waterproofing is to be applied to rough or uneven non-combustible surfaces i.e. brickwork or concrete, it is permissible for the installing contractor to use the Bauder underlayer appropriate to the specified system where this product is considered to be better for application to these surfaces. For all other situations, and particularly to vertical insulation, the Bauder Self-Adhesive Underlayer appropriate to the specified system must be used.
4. Provision for prevention of wind uplift (where required): Mechanically fix as per the corresponding project specific wind load calculation, using appropriate thermally broken fasteners (for cold roofs as clause 355A and for warm roof as clause 355B), fixed through to the deck.
5. Fixing of bitumen membranes to vertical upstands: Please refer to clause 775.

750A Laying mineral faced reinforced bitumen torch-on capping sheet - 'Safe-to-torch' zone

1. Bond: Full over whole surface, with no air pockets.
2. Excess compound at laps of top layer/ capping sheet: Leave as a continuous bitumen bead extrusion.
3. Laying top layer: Fully bonded to the underlayer by torching in the approved Bauder manner. Head laps to be 100 mm, side laps to be 80 mm. All laps to upstands, edge details, flashings, etc. to be 100 mm.
4. Fixing of bitumen membranes to vertical upstands: Please refer to clause 775.
5. Final Inspection: The finished roof must be thoroughly inspected by the Bauder Site Technician. This is to ensure that any remedial treatment that is necessary can be carried out prior to issuing the guarantee. Failure to ensure the instigation of this inspection will result in the issuing of the Bauder guarantee being put in jeopardy.
6. IMPORTANT NOTE: The mineral slate finish is a natural product, so the raw material may differ in colour and shade, over which Bauder has no control. There may also be colour variations between each roll of membrane.

750B Laying reinforced bitumen torch-on capping sheet - 'Safe to torch' zone

1. Bond: Full over whole surface, with no air pockets.
2. Excess compound at laps of top layer/ capping sheet: Leave as a continuous bitumen bead extrusion.
3. Laying top layer: Fully bonded to the underlayer by torching in the approved Bauder manner. Head laps to be 100 mm, side laps to be 80 mm. All laps to upstands, edge details, flashings, etc. to be 100 mm.
4. Fixing of bitumen membranes to vertical upstands: Please refer to clause 775.
5. Final Inspection: No landscaping is to be applied until the root resistant capping sheet has been thoroughly inspected by the Bauder Site Technician. This is to ensure that any remedial treatment that is necessary can be carried out prior to laying the landscaping elements. Failure

to ensure the instigation of this inspection will result in the issuing of the Bauder guarantee being put in jeopardy.

6. IMPORTANT NOTE: The mineral slate finish is a natural product, so the raw material may differ in colour and shade, over which Bauder has no control. There may also be colour variations between each roll of membrane.

773 'Torch-free' & 'Safe to torch' zones - Alternative membranes and application

1. For detailing application in locations constructed from or within the ‘Torch-Free’ & ‘Safe to Torch’ zones to potentially combustible materials or otherwise where it is considered appropriate by the contractor necessary to minimise the potential risk.
2. Primers: Bauder Activator-Primer (Canister), APR01-Black, must be used when using Bauder self-adhesive membranes and a ‘TORCH-FREE’ application is required.
3. Underlayers:
   - 3.1. It is permissible to use a Bauder self-adhesive membrane so long as this product is a recognised component of the system specified.
     Acceptable alternatives underlayers are listed below:
     - 3.1.1. BTRS: Bauder G4E to be replaced with BauderTEC KSA Duo
     - 3.1.2. BauderFlex: Bauder EGV 35 TF to be replaced with BauderTEC Sprint Duo
   - 3.2. NB: Where surface is uneven or not suitable for a self-adhesive membrane and where the surface is of a non-combustible material and is not required to be a ‘Torch-Free’ or ‘Safe to Torch’ zone – it is permissable to use a Torch Applied underderlayer, so long as the product is a recognised component of the system specifed.
   - 3.3. Acceptable alternative underlayers are listed below
     - 3.3.1. BTRS: BauderTEC KSA Duo to be replaced with Bauder G4E
     - 3.3.2. BauderFlex: BauderTEC Sprint Duo to be replaced with Bauder EGV 35 TF
4. Capping sheets
   - 4.1. Where appropriate, the installing contractor can use Bauder KSO-P SN / KSO SN / KSO ALP SN self-adhesive capping sheet, applied using the hot air hand tools approved for use with bituminous systems. Please note that Bauder Activator-Primer (Canister), APR01-Black, must be applied to the underlayer prior to installation of the self-adhesive capping sheet.
     - 4.1.1. Bauder KSO-P SN is only available in one colour – Charcoal Grey.
     - 4.1.2. Bauder KSO SN is available in two colours – Natural Slate or Brown.
     - 4.1.3. BauderTEC KSO ALP SN is only available in one colour – Brown
5. Self-adhered membranes: For upstands using only self-adhesive membranes, these will need to be mechanically fixed at the top leading edge of the membrane with Bauder aluminium peel bar regardless of the upstand height. This will be for System Airtech and for areas referred to as 'Torch-Free' zones. Please refer to Bauder Bituminous Standard Detail Drawings.
   - 5.1. Green Roof Notes: Please note it is strictly only permissable to use self-adhesive capping sheet for flashings and detailing work when installing Bauder XF301 Sedum Blanket or Hard landscaping finishes.
6. Approved Hot Air Equipment
   - 6.1. The BauderTEC KSO-P SN / KSO SN / KSO ALP SN membrane must be applied using the approved hot air hand tools.

775 Skirtings and Upstands

1. Angle Fillets: BauderPIR T KL 50 angle fillets (50 mm x 50 mm) must be used at all right-angled upstands.
   - Warm Roof Construction: Provisionally bonded in suitable Bauder Polyurethane Insulation Adhesive or Bauder Activator-Primer (Canister), APR01-Black, and subsequently retained once the underlay detailing is applied.
   - Uninsulated/Inverted Roof Construction: Coat both the surface area to receive the angle fillet and the angle fillet with Bauder Activator-Primer (Canister), APR01-Black. Once both surfaces are tacky, place the angle fillet in the correct location and apply pressure to the angle fillet to ensure adhesion is achieved.

   Important note - under no circumstances must fillets of an alternative material be incorporated (i.e. timber, cork, fibre, etc.) as this would invalidate the guarantee.
2. Layers of bitumen membrane: Carry in staggered formation up the upstand, with each layer fully bonded.
3. Upstands
   - 3.1. At ends of rolls: Underlay layer only, form with bitumen membrane carried up without using separate strip.
   - 3.2. Elsewhere: Form with matching strips of bitumen membrane, maintaining laps.
4. Upstand details (150mm minimum height): This must be taken from the finished roof surface. Please note that for landscaped roofs, this minimum height is measured from the finished landscape surface as opposed to the waterproofing surface. *Special attention should be paid to all structures, such as rooflights, counter-flashings, window and door cills, pipes etc. Bauder cannot take responsibility for water ingress over waterproofing details constructed below the recommended minimum height.
5. Level Thresholds: Acceptable, providing conforms to BS6229:2018 and current NHBC Standards, chapter, 7.1.
   - 5.1. Requirements
     - 5.1.1. Minimum 75mm upstand height. (This must be taken from the waterproofing or top of the insulation if an inverted roof).
     - 5.1.2. Falls are directed away from the door cill.
     - 5.1.3. Waterproofing is dressed up and under the door cill.
     - 5.1.4. Door cill has a minimum 45mm overhang.
     - 5.1.5. Provision is made for emergency overflow to prevent water getting to the waterproofing and cill interface.
     - 5.1.6. Any level threshold details not meeting this standard cannot be guaranteed by Bauder.
   - 5.2. Note: Bauder recommends the installation of a linear drain (BauderGREEN ER MR 150/60 linear drain and grill plate is suitable for this purpose) in front of the access door threshold, to help prevent rainwater splash back and snow build-up.
6. Flashings: Separate flashings must always be formed. Capping sheet taken up the upstand in one piece will not be permitted.
7. Green Roof Notes: If the client should desire not to see a green mineral finish then it is permissible to install a piece of suitable colour Bauder bituminous capping sheet membrane. The Bauder root resistant capping sheet must be taken a minimum 150mm from the finished landscaping surface*. The suitable coloured Bauder bituminous capping sheet must be lapped onto the Bauder root resistant capping sheet by a minimum 150mm and lapped onto the structure by a minimum of 100mm.
8. Fixing of bitumen membranes to vertical upstands: Where upstands terminate in excess of 250mm above the finished surface of the main field area capping sheet, screw fix through into

the underlying substrate as per the requirements set out below and in accordance with the Bauder Reinforced Bitumen Membrane Installation Guide.

9. Underlayer - insulated upstands only:

9.1. Prior to the installation of the self-adhesive underlayer, ALL insulation board types used to create an insulated upstand require a coating of Bauder Activator-Primer applied to the surface of the insulation board. The Activator-Primer should be applied at a rate of 96g/m². Insulated upstands exceeding 600mm in height will require additional fixings through the insulation board depending on the board type used, at a rate of:

9.1.1. BauderPIR FA-TE, 5No. fixings, one in each corner and one in the centre

9.1.2. BauderROCK, 1No. fixing, in the centre of the board.

9.1.3. BauderGLAS 1No. fixing, in the centre of the board.

10. Capping sheets - All upstands

10.1. Terminating on the vertical: Where the capping sheet is required to terminate on a vertical face, a Bauder Aluminium peel bar is to be used, mechanically fixed at 150mm centres (as per pre-drilled holes) with appropriate fixings suitable to the substrate. The termination should then be covered with the specified counter flashing material dressed over the top to ensure waterproofing integrity.
Should a traditional lead counter flashing be used, then a separating tape will need to be used between the aluminium bar and lead flashing.
Please note: A Bauder termination bar is not to be used in this scenario unless it has been specified by Bauder. Termination bars are not suitable for brickwork substrates. No additional membrane cover flashing is required.

10.2. Terminating on the horizontal: Where the capping sheet is taken onto the horizontal, e.g. on top of the parapet, the membrane must be fixed (using fixings appropriate and suitable to the substrate) with either:

10.2.1. A Bauder Aluminium peel bar, mechanically fixed at 150mm centres (as per pre- drilled holes).

10.2.2. 5No. screws and washers per capping sheet width, one fixing set in 50mm from the edge of either side of the sheet, with the three remaining fasteners equally spaced in between.

10.2.3. A Bauder GRP Trim, mechanically fixed at 300mm centres (maximum) using screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.

10.3. Capping sheet cover flashing: A separate flashing of Bauder capping sheet will be required to cover the fixings (please see Bauder detail drawings).
Please note: Upstands using only self-adhesive membranes (E.g. System Airtech and areas referred to as 'Torch-Free' zones) will need to be mechanically fixed at the top leading edge of the membrane with a Bauder aluminium peel bar regardless of the upstand height, unless it is retained by a GRP Trim on the horizontal.

11. Upstands that exceed approximately 1100mm

11.1. Bauder Ltd do not advocate the use of bitumen waterproofing on upstands exceeding approximately 1100mm due to consideration of the fire regulations. This should be carried out in an appropriate alternative as specified by the client. Please consult with Building Control for confirmation of upstand waterproofing requirements where the height exceeds 1100mm.

12. Mechanical Fastener Supplier

12.1. SFS Group Fastening Technology Ltd. 153 Kirkstall Road, Leeds, West Yorkshire. LS4 2AT
Tel: +44 (0)113 208 5500, Fax: +44 (0)113 208 5539, Email: uk.leeds@sfsintec.biz
Web: www.sfsintec.biz/uk

12.2. Mechanical Fasteners: Type: IWF-5.2x35 screws together with associated IFC/IW–82x40 galvanised pressed steel washer plates.

777 Secondary Weathering (pipes, ducting etc.)

1. Provision must be made to supply and install a secondary weathering flashing above all waterproof upstand detailing to pipe penetrations, balustrade posts, cable entry pipes, ventilation ducting, sun pipes etc. This can take the form of a welded collar (where appropriate) or a bespoke galvanized cowling or hood sealed with a suitable sealant and fasteners. Solvent welded plastic collars fitted to plastic soil vent pipes.

784A Roof drainage outlets

1. Product name: Bauder Bitumen Vertical Outlet
2. Material: : Cast polyurethane body with integral bituminous connection flange.
3. Product size/ reference
   - 3.1. Bauder Compact Vertical Outlet DN 100, 6.1 litres/sec. flow rate, with vertical spigot designed to connect to standard 110mm pipework.
   - 3.2. Bauder Vertical Outlet DN 70, 7.1 litres/sec. flow rate, with vertical spigot designed to connect to standard 75mm pipework.
   - 3.3. Bauder Vertical Outlet DN 150, 7.2 litres/sec. flow rate, with vertical spigot designed to connect to standard 160mm pipework.
4. Flow rate: Based upon vertical pipework and a 35 mm head of water pressure – according to BS EN 12056:3:2000.
5. Pipe connection: Bauder High Capacity Vertical Outlet are suitable for connection to:
   - 5.1. uPVC “O” ring socketed soil grade pipe to BS 4514: 1983
   - 5.2. Socketed and socket-less cast-iron pipework to BS 416:1973 and EN 887. Socketed pipework will require cold caulking or PVC to cast iron adaptors. Socket-less pipework can be connection using an appropriate SML mechanical coupling.
   - 5.3. HDPE pipework with appropriate SML mechanical coupling
6. Type of grate/ fittings: Supplied with a tough polyamide Dome Grate leaf guard.
   - 6.1. Alternative: Bauder Locking Leaf Guard Long Leg: Additional component where higher durability or security is required.
7. Bauder Extension/Compact Extension Unit - Warm roofs only:

   When the outlet is used as part of a warm roof build-up and the insulation thickness exceeds 60 mm, an additional extension component must be used. The Bauder Extension Unit is suitable for use with Insulation:
   - 7.1. 60mm - 220 mm.
     If the insulation is below 60mm a timber frame must be built to accommodate the outlet.
8. Extension Unit Housing: Polyurethane housing board 500 x 500 x 60mm with pre-molded opening to receive the Bauder Extension Unit. Thermal Conductivity 0.025 W/Mk. Compressive Strength 200 kPa and a Density of 50 kg/m³.
   - 8.1. Material: Cast polyurethane body with integral bituminous connection flange.
   - 8.2. Fixing: The extension unit must be mechanically fixed through the PUR rim to the structural deck.
   - 8.3. Type of grate/ fittings: When required the Dome Grate leaf guard is transferred from the Bauder Compact Vertical Outlet.

9. Bauder Vertical Outlet - Installation requirements: These components that form part of the Bauder waterproofing system and for guarantee reasons, should only be installed by Bauder Approved installers. Connectivity to below deck drainage pipework to be the responsibility of the plumbing contractor.
10. Fixing: The outlet is to be secured through the rim to the structural deck by a minimum of four fasteners appropriate to obtain an adequate attachment to the deck substrate material. Some deck structures require preparatory works before the outlets can be installed:
    10.1. Concrete decks: The opening for the outlet to be either pre-cast or core-drilled so that the outlet can be installed at the same time as the air and vapour control layer. Provision for a 250 mm dia. opening is required.
    10.2. Profiled metal decks: These also require a 250 mm dia. Opening cut into the decking, but in addition will require a 600 x 600 x 1.25 mm galvanised steel reinforcing plate secured to the deck before the outlet can be installed. This item has a pre-cut 250 mm dia. hole and is available from Bauder.
    10.3. For detailed information, refer to the Bauder Product Data Sheet and Bauder Detail Drawing.

784G Parapet emergency overflow

1. Product Name: Bauder Parapet Emergency Overflow Stainless Steel DN 70
2. Material and specification: Stainless Steel. Length of tube 800mm. 3° neck slope
3. Flow Rate: In accordance with BS EN 12056-3-2000, Overflows or emergency outlets should be provided on flat roofs with parapets and in non-eaves gutters in order to reduce the risk of over spilling of rainwater into a building or structural overloading.
4. Suitability: These emergency overflow outlets are designed to be used as a through chute to warn of a build-up of water on the roof due to a blockage of the drainage system(s). They are not suitable or intended for connection to internal pipework that is within a wall construction or boxed in and is inaccessible after construction.
5. Installation requirements: Emergency overflow (suitable for bitumen membranes) to be installed through the system and kerb after creation of a suitable size diameter opening. The overflow should be secured using suitable fixings. The fixing plates supplied will form part of the Bauder waterproofing system and for guarantee reasons, should only be installed by Bauder Approved installers.
6. Fixing: The deck or wall structure may require preparatory works before the emergency overflow can be installed: The bitumen waterproofing membrane should be suitably bonded on to the overflow plate. The overflow opening should be positioned approx. 35mm above the lowest point of the waterproofing or landscape finish.

785 Fixing perimeter trims

1. Bitumen membranes:
    1.1. The first layer of membrane must be self-adhesive and dressed to the full extent of the detail using Torch-Free methods. This is to ensure that the detail is fully encapsulated to reduce the risk of fire to exposed combustible materials.
    1.2. Dress the underlayer up and over the perimeter detail to provide a 25mm overhang. Please refer to Bauder standard detail drawings.
2. Trim
    2.1. Setting out: 10mm gap between the back edge of the bottom of the drip to the fascia/wall and 3mm gap between abutting lengths of trim.
    2.2. Fasteners: Screw fasteners of type appropriate to kerb or deck substrate. Nail fixing is not permitted.

2.3. Fixing: 30 mm from ends and at 300 mm (maximum) centres, stagger fixed. Can be used to retain the capping sheet where the capping sheet is taken to the full extent of the detail – please see Bauder detail drawing.

2.3.1. 150mm deep trims (type 6): 3no. additional fixings per length of trim. The fixings are to be face fixed with screws and positioned 75mm down from the top edge, one fixing 100mm in from each end and one in the centre and capped with coloured matched plastic weathering caps. A fixed timber packer will be required behind the face of the trim to help facilitate ease of fixing.

2.3.2. For roofs above 10 metres in height : The 100mm deep trim (type 4) will require face fixing, as per 150mm trim above. A fixed timber packer will be required behind the face of the trim to help facilitate ease of fixing.

2.4. Jointing sleeves / bridging piece: All lengths should be close butt jointed using an internal jointing sleeve. This must be provided to each joint.

2.5. Corner pieces: Purpose made.

3. Completion

3.1. Contact surfaces: Prime with Bauder Primer.

3.2. Joints: Cover with 200mm long pads of bitumen membrane, bonded to trim.

4. Completion of bitumen membrane

4.1. Top layer/ Capping sheet: Butt joint to rear edge of trim.

4.2. Cover strip: Fully bond to trim and top layer/ capping sheet of bitumen membrane. Carry over roof edge upstand and lap 100 mm onto roof. The capping sheet is to be dressed tightly into the top lip of the trim, ensuring a bead of bitumen extrudes at the edge. Please see Bauder detail drawing.

5. Wall / kerb joints: The new trim must cover any open joint that may exist at the top of the kerb or wall, by a minimum distance of 20mm.

786 Lightning conductor clips

1. The lightning conductor is to be fixed using the specified conductor clips, incorporating a colour matched Bauder capping sheet pad, fully bonded to the main capping sheet at 1m centres by the approved Bauder roofing contractor. Lightning conductor retention using bituminous membrane strips are not acceptable.
2. Where lightning conductors are required to be fixed to brickwork, upstands, parapet walls etc., proprietary clips mechanically fixed should be utilised. Care should be taken to ensure that fixings do not penetrate the new waterproofing system.

Surfacing

863 Designated maintenance walkways

1. Location: As designated by the client.
2. Application: Remove the selvedge lap prior to installing. Membrane to be fully bonded to the previous capping sheet layer, making provision for leaving intermittent 100 mm gaps between sheets to form drainage channels, particularly where the walkway layer impedes water run-off.

Completion

910 Inspection

1. Interim and final roof inspections: in accordance with the manufacturer's requirements for guarantee.

2. Notification:
   Final Inspection: It is the responsibility of the approved contractor to advise Bauder Ltd when the roof is ready for Final Inspection. The 'Final Inspection' of the waterproofing must be carried out and approved by Bauder Ltd prior to any landscaping products/materials being installed, otherwise a guarantee cannot be issued. Safe access to carry out this inspection must be provided. Please note, there are/maybe further roof 'sign-off' inspections required to complete the roof(s) for this specification. If so, please note the below.
3. Sign-off Inspections:
   Bauder Extensive Green Roofs: Bauder Extensive or Biodiverse soft landscaped green roof installations similarly require an inspection and it is the responsibility of the installing contractor to inform Bauder Ltd when the installation has been completed. Safe access to carry out this inspection must be provided.
4. Other requirements: Please also refer to preliminaries / general conditions.

920 Electronic roof integrity test

1. Testing authority: UKAS approved laboratory with roofing contractor in attendance.
2. Timing of test: Prior to, and on completion of access by other trades.
3. Condition of roof prior to testing
   3.1. Complete to a stage where integrity can be tested.
   3.2. Surface: Clean.
4. Test results and warranty: Submit on completion of testing.

930 Flood test

1. Condition of roof before testing: Complete to a stage where integrity of bitumen membrane covering can be tested.
2. Outlets: Externally cover and seal. Protect against damage from water pressure using temporary kerbs. Do not use plugs to seal outlets.
3. Flood levels: Submit proposals. In no case higher than kerbs.
4. Flood duration: Three days
5. Inspection to detect leaks: Regular.
6. Completion of test: Slowly drain roof. Do not overload or flood outlets.
7. Test results and warranty: Submit on completion of testing.

940 Completion

1. Roof areas: Clean.
2. Outlets: Clear.
3. Work necessary to provide a weathertight finish: Complete.
4. Storage of materials on finished surface: Not permitted.
5. Completed membrane: Do not damage. Protect from chemicals, traffic and adjacent or high-level working.

950C Guarantee

1. A 20 year product and workmanship guarantee is to be provided upon completion following a Final Inspection by Bauder. Details regarding the full terms and conditions are available separately from Bauder Ltd upon request. This system must be installed by a Bauder Approved Contractor, to be eligible for guarantee. The system comprises the waterproofing membranes, insulation, air and vapour control layer, and attachment of these products.

Ω End of Section

K10
Gypsum board dry linings/ partitions/ ceilings

Types of dry lining

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

010 General Requirements - Installation

1. All installation is to be full in accordance with the manufacturer's requirements and certified systems and details. Deviation from these principles may compromise performance and as such should not be employed without the necessary approval from manufacturer.

011 General Requirements - Accessories

1. Sockets, putty pads, access hatches, baffle boxes etc. : To be provided in a manner that will not compromise the performance rating of the element.

012 General Requirements - Structural Performance and Barrier Loading

1. Strength standards: To BS 5234-1 and BS 5234-2.
2. Barrier Loading: Partitions where against voids or level differences shall achieve barrier loading conditions to BS6180 table 2 classifications suited to the loading conditions applicable to the adjacent space.
   As a minimum assume Class (xiii) = 1.5kN point load, 1.5kN Line load and 1.5kN/m2 UDL where against voids.
   Where spaces are in excess of 3m depth and subject to crowd loading requirements performance shall increase.
   All values for barrier loading are to be approved by the Approved Inspector prior to any installation of works.
3. Additional structural performance requirements: Where tiling on top of lining reduce centres as recommended by manufacturer ensuring maximum weight for system is not exceeded and acoustic performance requirement is not compromised.

013 General Requirements - Additional Supports and Pattressing

1. Fixing: To be in accordance with manufacturers details with proprietary brackets fixed between studs to ensure that the acoustic and fire performance is not compromised.
2. Acoustic uplift: Where pattressing is extensive and may compromise acoustic transfer, ensure necessary measures are taken to not compromise the acoustic performance of wall.
3. Exceptions: Where loads are excessive and cannot be accommodate by pattressing, please allow for additional structural framing.
4. External walls: All materials in external walls to be non-combustible - consider the use of Gyproc Habito boards or other non-combustible sheathing boards for pattressing where required subject to recommendation by manufacturer.
5. Scope:
    - Partitions and linings to be provided with adequate additional supports / pattressing / noggins to secure all fixtures, fittings and service outlets as per manufacturer recommendations ensuring acoustic and fire performance is not compromised. For all fixtures, fittings and service outlets, mark framing positions clearly and accurately on linings for following trades. Accurately position all additional framing and fix securely.
    - Provide or ensure provision of additional framing, accurately positioned and securely fixed, to give full support to board edges and lining perimeters in accordance with board manufacturer's recommendations.
    - The final location and quantum of which is to be agreed following detail design and scheduling of equipment.
6. Areas:
   - Fixed FF&E
   - TV screens / projectors
   - Grab rails / sanitaryware equipment
   - Handrails
   - Pipework and services

014 General requirements - Partition track bearing

1. Provide or ensure provision of accurately positioned and securely fixed framing to receive partition heads running parallel with, but offset from main structural supports.
2. Where partitions are not aligned to steels, allow for 40x40 Zed bars to head tracks to allow installation of partition head asymmetrically to steel beams where 2/3 bearing of track is not achieved and proximity to steel will not allow installation of acoustic and fire stopping to the head. Where necessary, encase beam in plasterboard in accordance with manufacturers standard details to ensure continuity of acoustic and fire performance.

015 General Requirements - Humid conditions

1. Where plasterboards are present to spaces which may be in excess of 75% Relative humidity, moisture resistant board variants shall be employed for the facing board. Locations shown in wall types drawings HCC-HBA-ZZ-00-DR-A-220100 to 220103.
2. Where over 100%RH such as wet rooms and debonding membranes are not present, cementitious tile backer boards shall be used.

016 General Requirements - Intumescent paint

1. Where steel is protected by intumescent paint, recommendations are to be followed such that 50x dft of paint is provided as an expansion zone. Plaster boarding and framing should not encroach this zone unless agreed with the intumescent paint manufacturer. As per ASFP TGN 13.

017 General Requirements - Finishing

1. Walls are to be: Skimmed, or, taped &jointed, subject to an agreed standard of finish for the relevant location.
2. Multi-story walls, walls below rooflights, walls tangential to large extents glazing where light reflects from the wall at a low level of incidence, long corridors with repetitive board joints and complex junctions such as reveals or features are recommended to be skimmed to ensure that jointing is not visible.

115A Metal stud partition system - Single Stud

1. Description: Stud wall with double layer plasterboard either side.
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Single Frame A206015 (A) (EN) or acceptable equivalent.
3. Partition type: Single row studs
   3.1. Centres: 600 mm
4. Partition height: Maximum height 4200mm.
5. Head condition: Concrete slab / beam and pot subject to location
   5.1. Deflection allowance: 25mm maximum.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 30 or better
8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
   9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 45 Rw dB.
10. Metal framing:
    10.1. Stud: Gypframe 70 S 50 'C' Stud
    10.2. Abutments and openings: Gypframe 70 S 50 'C' Stud
    10.3. Base channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
    10.4. Head channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
11. Linings: Two layers 12.5mm Gyproc WallBoard, sheet width 1200mm, to both sides of framing.
12. Finishing: Skim coat plaster as M20/280.

115B Metal stud partition system - Single Stud

1. Description: Stud wall with double layer plasterboard either side.
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Single Frame A206016 (A) (EN) or acceptable equivalent.
3. Partition type: Single row studs
   3.1. Centres: 600 mm

4. Partition height: Maximum height 4200mm.
5. Head condition: Concrete slab / beam and pot subject to location
   5.1. Deflection allowance: 25mm maximum.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better
8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
   9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 45 Rw dB.
10. Metal framing:
    10.1. Stud: Gypframe 70 S 50 'C' Stud
    10.2. Abutments and openings: Gypframe 70 S 50 'C' Stud
    10.3. Base channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
    10.4. Head channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
11. Linings: Two layers 15mm Gyproc WallBoard, sheet width 1200mm, to both sides of framing.
12. Finishing: Skim coat plaster as M20/280.

115C Metal stud partition system - Single Stud

1. Description: Stud wall with double layer plasterboard either side.
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Single Frame A206A198 (EN) or acceptable equivalent.
3. Partition type: Single row studs
   3.1. Centres: 600 mm
4. Partition height: Maximum height 4000mm.
5. Head condition: Concrete slab / beam and pot subject to location
   5.1. Deflection allowance: 25mm maximum.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better
8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation

9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 55 Rw dB.

10. Metal framing:
    10.1. Stud: Gypframe 70 AS 50 AcouStud
    10.2. Abutments and openings: Gypframe 70 S 50 'C' Stud
    10.3. Base channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
    10.4. Head channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
11. Linings: Two layers 12.5mm Gyproc SoundBloc, sheet width 1200mm, to both sides of framing.
12. Finishing: Skim coat plaster as M20/280.

115D Metal stud partition system - Single Stud

1. Description: Stud wall with resilient bar and double layer plasterboard either side.
2. Manufacturer: British Gypsum or acceptable equivalent.
    2.1. Product reference: GypWall Resilient A316008 (EN) or acceptable equivalent.
3. Partition type: Single row studs and resilient bar
    3.1. Centres: 600 mm
4. Partition height: Maximum height 4000mm.
5. Head condition: Concrete slab / beam and pot subject to location
    5.1. Deflection allowance: 25mm maximum.
6. Structural performance
    6.1. Strength grade to BS 5234-2: Severe
    6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
    7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better
8. Fire separation
    8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
    9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 60 Rw dB.
10. Metal framing:
    10.1. Stud: Gypframe 70 S 50 'C' Stud
    10.2. Abutments and openings: Gypframe 70 S 50 'C' Stud
    10.3. Resilient bar: Gypframe RB1 Resilient Bar
    10.4. Base channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
    10.5. Head channel: Gypframe 72 FEC 50 Folded Edge Standard Floor and Ceiling Channel
11. Insulation: 50mm Isover Acoustic Partition Roll (APR 1200)
12. Linings: Two layers 12.5mm Gyproc SoundBloc, sheet width 1200mm, to both sides of framing.
13. Finishing: Skim coat plaster as M20/280.

115E Metal stud partition system - Twin Frame

1. Description: Twin frame stud wall with double layer plasterboard either side.

2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Twin Frame Braced A216008 (A) (EN) or acceptable equivalent.
3. Partition type: Double row studs
   3.1. Centres: 600 mm
4. Partition height: Maximum height 4200mm.
5. Head condition: Concrete slab / beam and pot subject to location.
   5.1. Deflection allowance: 25mm maximum.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better
8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
   9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 55 Rw dB.
10. Metal framing:
    10.1. Stud: Gypframe 48 S 50 'C' Stud
    10.2. Abutments and openings: Gypframe 48 S 50 'C' Stud
    10.3. Base channel: Gypframe 50 FEC 50 Folded Edge Standard Floor and Ceiling Channel
    10.4. Head channel: Gypframe 50 FEC 50 Folded Edge Standard Floor and Ceiling Channel
11. Linings: Two layers 15mm Gyproc SoundBloc to both sides of framing.
12. Finishing: Skim coat plaster as M20/280.

115F Metal stud partition system - Shaftwall

1. Description: Plasterboard shaft wall system.
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Shaft A306005 (A) (EN) or acceptable equivalent.
3. Partition type: Shaftwall
   3.1. Centres: 600mm.
4. Partition height: Maximum height 4200mm.
5. Head condition: Concrete slab / beam and pot subject to location.
   5.1. Deflection allowance: 25mm.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe.
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better.

7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better

8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
   9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 40 Rw dB.
10. Metal framing:
    10.1. Stud: Gypframe 92 I 90 'I' Stud
    10.2. Abutment channel: Gypframe 92 SC 90 Starter Channel
    10.3. Base channel: Gypframe 94 FEC 50 Folded Edge Standard Channel
    10.4. Head channel: Gypframe 94 EDC 70 Extra Deep Flange Channel
11. Core: 19mm Gyproc CoreBoard between studs, secured with Gypframe Retaining Channels.
12. Linings: Two layers of Gyproc FireLine 12.5mm
13. Finishing: Skim coat plaster as M20/280.

115G Metal stud partition system - Shaftwall

1. Description: Plasterboard shaft wall system.
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypWall Shaft A306020 (A) (EN) or acceptable equivalent.
3. Partition type: Shaftwall
   3.1. Centres: 600mm.
4. Partition height: Maximum height 4200mm.
5. Head condition: Concrete slab / beam and pot subject to location.
   5.1. Deflection allowance: 25mm.
6. Structural performance
   6.1. Strength grade to BS 5234-2: Severe.
   6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A1.
   7.2. Fire resistance of complete partition assembly: To BS EN 1364-1. EI 60 or better
8. Fire separation
   8.1. Cavity fire barriers: As per K10/530.
9. Airborne sound insulation
   9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Not less than 55 Rw dB. Must be paired with lining K10/185B to meet acoustic requirement.
10. Metal framing:
    10.1. Stud: Gypframe 146 TI 90 Tabbed 'I' Stud
    10.2. Abutment channel: Gypframe 146 TSC 90 Tabbed Starter Channel
    10.3. Base channel: Gypframe 148 FEC 50 Folded Edge Standard Floor & Ceiling Channel
    10.4. Head channel: Gypframe 148 EDC 80 Extra Deep Flange Floor & Ceiling Channel

11. Core: Gyproc CoreBoard 19mm between studs, secured with Gypframe G102 Retaining Channels.
12. Insulation: 25mm Isover Acoustic Partition Roll (APR 1200)
13. Linings: Two layers Gyproc FireLine 12.5mm
14. Finishing: Skim coat plaster as M20/280.

145A Wall lining system (metal studs) - Independent

1. Manufacturer: British Gypsum or acceptable equivalent.
    1.1. Product reference: GypLyner Independent B216005 (D) or acceptable equivalent
2. Partition type: Single row studs
    2.1. Centres: 600 mm
3. Cavity between wall and studs: Varies as per drawings.
4. Wall lining height: Maximum 4000mm
5. Head condition: Concrete slab / beam and pot subject to location
    5.1. Deflection allowance: 25mm
6. Structural performance
    6.1. Strength grade to BS 5234-2: Severe
    6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
7. Fire performance
    7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    7.2. Fire resistance of complete wall lining assembly: Non fire rated.
8. Fire separation
    8.1. Cavity fire barriers: As manufacturer recommendations.
9. Airborne sound insulation:
    9.1. Weighted sound reduction index Rw (minimum) to BS EN ISO 717-1: Acoustic requirements to be achieved in combination with hosting wall
10. Metal framing: Gypframe 70 I 70 'I' Studs and associated sections as recommended by manufacturer.
11. Linings: Two layers of 12.5mm Gyproc SoundBloc
12. Finishing: Skim coat plaster as M20/280.

145B Wall lining system (metal studs) - Independent

1. Manufacturer: British Gypsum or acceptable equivalent.
    1.1. Product reference: GypLyner Independent or acceptable equivalent
2. Partition type: Single row studs
    2.1. Centres: 600 mm
3. Cavity between wall and studs: Varies as per drawings.
4. Wall lining height: Maximum 4000mm
5. Head condition: Concrete slab / beam and pot subject to location
    5.1. Deflection allowance: 25mm
6. Structural performance
    6.1. Strength grade to BS 5234-2: Severe

6.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm

7. Fire performance
   7.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   7.2. Fire resistance of complete wall lining assembly: Non fire rated.
8. Fire separation
   8.1. Cavity fire barriers: As manufacturer recommendations.
9. Metal framing: Gypframe 70 I 70 'I' Studs and associated sections as recommended by manufacturer.
10. Linings: Two layers of 12.5mm Gyproc Moisture resitant wall board
11. Finishing: Skim coat plaster as M20/280 above datum / tiling as M40/110A below.
12. Pattressing: Allow for pattressing for all sanitaryware as clause 013.

155A Wall lining system (to external walls)

1. Description: Internal lining to RC columns and external SFS wall systems
2. Manufacturer: British Gypsum
   2.1. Product reference: Two layers of 12.5mm Gyproc WallBoard or acceptable equivalent.
3. Channels: GypLyner or acceptable equivalent to manufacturer's recommendations.
4. Air and vapour control layer: Refer to EOC specification
5. Studs
   5.1. Type: As G10.
6. Finishing: Skim coat plaster as M20/280.

155B Wall lining system (to external walls) - Fire rated

1. Description: Internal lining to RC columns and external SFS wall systems with fire rating
2. Manufacturer: British Gypsum
   2.1. Product reference: Two layers of 12.5mm Gyproc FireLine or acceptable equivalent.
3. Fire rating: 60 minute fire rating as fire strategy plans to be achieved in combination with hosting wall.
4. Channels: GypLyner or acceptable equivalent to manufacturer's recommendations.
5. Air and vapour control layer: Refer to EOC specification
6. Studs
   6.1. Type: As G10.
7. Finishing: Skim coat plaster as M20/280.

155C Wall lining system (to external walls) - Insulated

1. Description: Insulated internal lining to existing external walls
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: GypLyner Independent bespoke system or acceptable equivalent
3. Partition type: Single row studs with metal lining channels
   3.1. Centres: 600 mm
4. Cavity between wall and studs: Varies as per drawings.
5. Wall lining height: Maximum 4000mm

6. Head condition: Concrete slab / beam and pot subject to location
    6.1. Deflection allowance: 25mm
7. Structural performance
    7.1. Strength grade to BS 5234-2: Severe
    7.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
8. Fire performance
    8.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    8.2. Fire resistance of complete wall lining assembly: Non fire rated.
9. Fire separation
    9.1. Cavity fire barriers: As manufacturer recommendations.
10. Metal framing: Gypframe 70 I 70 'I' Studs with 25mm metal lining channel framework and associated sections as recommended by manufacturer.
11. Air and vapour control layer: Refer to EOC specification
12. Insulation: 50mm mineral wool insulation behind stud and 70mm mineral wool packed between studs.
13. Linings: Two layers of 12.5mm Gyproc WallBoard or acceptable equivalent.
14. Finishing: Skim coat plaster as M20/280.

155D Wall lining system (to external walls) - Insulated with Boxing Out

1. Description: Insulated internal lining with boxing out to existing external walls
2. Manufacturer: British Gypsum or acceptable equivalent.
    2.1. Product reference: GypLyner Independent bespoke system or acceptable equivalent
3. Partition type: Double row studs
    3.1. Centres: 600 mm
4. Cavity between wall and studs: Varies as per drawings.
5. Wall lining height: Maximum 4000mm
6. Head condition: Concrete slab / beam and pot subject to location
    6.1. Deflection allowance: 25mm
7. Structural performance
    7.1. Strength grade to BS 5234-2: Severe
    7.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
8. Fire performance
    8.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    8.2. Fire resistance of complete wall lining assembly: Non fire rated.
9. Fire separation
    9.1. Cavity fire barriers: As manufacturer recommendations.
10. Metal framing: Two layers of Gypframe 70 I 70 'I' Studs and associated sections as recommended by manufacturer.
11. Air and vapour control layer: Refer to EOC specification
12. Insulation: 50mm mineral wool insulation behind stud and 70mm mineral wool packed between first layer of studs.

13. Linings: Two layers of 12.5mm Gyproc WallBoard or acceptable equivalent.
14. Finishing: Skim coat plaster as M20/280.

155E Wall lining system (to external walls) - Insulated with Heritage Wall Paneling

1. Description: Insulated internal lining with heritage wall paneling to existing external walls
2. Manufacturer: British Gypsum or acceptable equivalent.
    2.1. Product reference: GypLyner Independent bespoke system or acceptable equivalent
3. Partition type: Single row studs with metal lining channels
    3.1. Centres: 600 mm
4. Cavity between wall and studs: Varies as per drawings.
5. Wall lining height: Maximum 4000mm
6. Head condition: Concrete slab / beam and pot subject to location
    6.1. Deflection allowance: 25mm
7. Structural performance
    7.1. Strength grade to BS 5234-2: Severe
    7.2. Air pressure and deflection: Air pressure (maximum) 200 N/m² and deflection (maximum) height ÷ 240 mm
8. Fire performance
    8.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    8.2. Fire resistance of complete wall lining assembly: Non fire rated.
9. Fire separation
    9.1. Cavity fire barriers: As manufacturer recommendations.
10. Metal framing: Gypframe 70 I 70 'I' Studs and associated sections as recommended by manufacturer.
11. Air and vapour control layer: Refer to EOC specification
12. Insulation: 50mm mineral wool insulation behind stud and 70mm mineral wool packed between studs.
13. Linings: Existing heritage wall paneling as relevant K13 specifcation subject to location.

185A Wall lining system - Dot and Dab Boarding on Metal Channels

1. Description: Plasterboard drylining to blockwork walls and existing concrete with dot and dab on metal channels
2. Manufacturer: British Gypsum or acceptable equivalent.
    2.1. Product reference: DriLyner Fix MF (C) (EN) or acceptable equivalent
3. Wall: Blockwork / existing concrete columns / walls
4. Adhesive method: Gyproc DriWall Adhesive
5. Channel: Gypframe MF10 Channel at 600mm centres
6. Fire performance
    6.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    6.2. Fire resistance of complete wall lining assembly: Non fire rated
7. Linings: 15mm Gyproc WallBoard
8. Finishing: Skim coat plaster as M20/280.

185B Wall lining system - Insulated Acoustic Lining on Metal Channels

1. Description: Plasterboard acoustic lining on metal channels
2. Manufacturer: British Gypsum or acceptable equivalent.
   2.1. Product reference: B226008 (B) (EN) or acceptable equivalent
3. Wall: Walls / shaft walls
4. Channel: Gypframe GL1 Lining Channel at 600mm centres
5. Fire performance
   5.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   5.2. Fire resistance of complete wall lining assembly: Non fire rated
6. Linings: 12.5mm Gyproc SoundBloc
7. Finishing: Skim coat plaster as M20/280.
8. Insulation:: 25mm Isover Acoustic Partition Roll (APR 1200)

220A Proprietary suspended ceiling system - General

1. Description: Suspended plasterboard monolithic ceilings
2. Standard: To BS EN 13964.
3. Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).
4. Manufacturer: British Gypsum or acceptable equivalent.
   4.1. Product reference: GypCeiling MF or acceptable equivalent.
5. Fire performance
   5.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   5.2. Fire resistance of complete wall lining assembly: Non fire rated.
   5.3. Cavity fire barriers: As K10/545.
6. Lining board: One layer 12.5mm WallBoard
   6.1. Finishing: Skim plaster as M20/280.
7. Suspension system
   7.1. Grid centres: Gypframe frames and hangers at centres as manufacturer's recommendations.
   7.2. Hangers: As manufacturer's recommendations.
      7.2.1. Top fixing: To suit structural soffit of in-situ RC / pot and beam subject to location.
8. Access units: Where required as clasue 430.
9. Integrated services fittings: Hangers and housings for linear luminaires and all other fittings and services as required.
10. Electrical continuity and earth bonding: Refer to MEP Eng. information for requirements
11. Accessories/ Other requirements: Floating edge light recess where ceiling acts as raft to workspace as BG trim detail CN-321-019.

220B Proprietary suspended ceiling system - Moisture resistant

1. Description: Suspended moisture resistant plasterboard monolithic ceilings
2. Standard: To BS EN 13964.
3. Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).

4. Manufacturer: British Gypsum or acceptable equivalent.
   4.1. Product reference: GypCeiling MF or acceptable equivalent.
5. Fire performance
   5.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
   5.2. Fire resistance of complete wall lining assembly: Non fire rated.
   5.3. Cavity fire barriers: As K10/545.
6. Lining board: One layer 12.5mm Gyproc Moisture Resistant
   6.1. Finishing: Skim plaster as M20/280.
7. Suspension system
   7.1. Grid centres: Gypframe frames and hangers at centres as manufacturer's recommendations.
   7.2. Hangers: As manufacturer's recommendations.
      7.2.1. Top fixing: To suit structural soffit of in-situ RC / pot and beam subject to location.
8. Access units: Where required as clasue 430.
9. Integrated services fittings: Hangers and housings for linear luminaires and all other fittings and services as required.
10. Electrical continuity and earth bonding: Refer to MEP Eng. information for requirements

220C Seamless acoustic ceiling system

1. Eduarda to confirm bold items
2. Manufacturer: Rockfon or acceptable equivalent.
3. Product reference: Rockfon® Mono® Acoustic (Suspended) (ROCKFON Mono Acoustic Suspended System - 1200 x 1200 x 40 mm)or acceptable equivalent.
4. System performance: Airborne sound absorption.
5. Coating
   5.1. Binding agent: Seamless acoustic render.
   5.2. Insulant: Stone wool.
6. Protective membrane: High performance membrane with a mineral fleece.
7. System completion: As manufacturer's recommendations.
8. Module size: 1200 x 1200 x 40 mm.
9. Edge: TE Elegant Render.
   Allow for shadow gap aluminium profile to perimeter edges
10. Sound insulation: 22 dB (Rw, to ISO 140-3).
11. Reaction to fire: A2-s1, d0 (to EN 13501-1).
12. Cavity barriers: As K10/545
13. Noise reduction coefficient (NRC): 0.90.
14. Sound absorption: Class A (to ISO 11654: 0.95 αw).
15. Light reflectance: 87%
16. Visual appearance (L value): 94.5
17. Certification: Cradle to Cradle Certified® Bronze.

220D Bespoke ceiling to Council Chamber

1. Description: Bespoke ceiling to match original ceiling which has been removed as part of strip-out as contained asbestos.
2. Manufacturer: Lindner or acceptable equivalent.
3. Design: Specialist subcontractor to design and build to match original ceiling. Refer to detail drawing HCC-HBA-CC-ZZ-DR-A-350402 and HCC-HBA-CC-ZZ-DR-A-350403 for design intent.
    3.1. Finish: To match Asbestolux appearance without hazardous products.
    3.2. Colour: White
    3.3. Edges: 20mm chamfered timber perimeter edges
    3.4. Joints: Butt joints with concealed fixings
    3.5. Access panels: Removeable panels required - areas TBC at detailed design stage with MEP consultant and access and maintenance strategy to be developed and agreed with client.
4. Lighting and MEP: - Integrated LED strip uplight as per design intent detail.
   - All other MEP and light fixtures to be integrated and flush to ceiling surface.
   - Integrated white PPC coated ventilation grille in matching color to MEP specification – refer to architectural drawings for location. Free area to MEP spec.
5. Acoustic performance: Reflective properties as per Acoustic Engineer report.

220E Vaulted ceiling to Registrar

1. Description: Bespoke ceiling to match original vaulted ceiling.
2. Design: Specialist subcontractor to design and build to match original ceiling. Bespoke access panels to be made to follow curve and concealed.
3. Finish : Smooth
4. Colour: White
5. Acoustic performance: Class A
6. Indicative product: BASWA Phon Classic Fine 40mm or acceptable equivalent.

220F Proprietary suspended ceiling system - Existing Replacement

1. Description: Suspended plasterboard monolithic ceilings to replace existing where required to match original.
2. Standard: To BS EN 13964.
3. Evidence of compliance: All ceilings kits to be CE marked. Submit Declaration of Performance (DoP).
4. Manufacturer: British Gypsum or acceptable equivalent.
    4.1. Product reference: GypCeiling MF or acceptable equivalent.
5. Fire performance
    5.1. Reaction to fire: To BS EN 13501-1, class A2-s1, d0 or better
    5.2. Fire resistance of complete wall lining assembly: Non fire rated.
    5.3. Cavity fire barriers: As K10/545.
6. Lining board: One layer 12.5mm WallBoard
    6.1. Finishing: Skim plaster as M20/280.
7. Suspension system

7.1. Grid centres: Gypframe frames and hangers at centres as manufacturer's recommendations.

7.2. Hangers: As manufacturer's recommendations.

7.2.1. Top fixing: To suit structural soffit of in-situ RC / pot and beam subject to location.

8. Access units: Where required as clasue 430.
9. Integrated services fittings: Hangers and housings for linear luminaires and all other fittings and services as required.
10. Electrical continuity and earth bonding: Refer to MEP Eng. information for requirements

245 Plasterboard bulkhead with insulation

1. Description: Plasterboard bulkhead lining on metal framing with mineral wool in between to existing civic centre.
2. Background: RC and hollow-pot slab.
3. Manufacturer: British Gypsum or acceptable equivalent.

   3.1. Product reference: GypLyner Ceiling or acceptable equivalent.
4. Insulation: Mineral wool insulation between metal framing.
5. Linings: One layer 12.5mm WallBoard
6. Finishing: Skim plaster as M20/280.

255 Encasement system (metal framing)

1. Description: Framed fire protection to steelwork in civic Centre lifts and risers and all other exposed structural steelwork.
   - To columns generally

   Floor junctions to be determined at stage 4 as per contractors proposals to ensure Fire compartmentalization as per Fire engineer's recommendations.
2. Manufacturer: British Gypsum or acceptable equivalent

   2.1. Product reference: GypLyner Encase or acceptable equivalent
3. Fire performance

   3.1. Fire resistance of encasement system: REI 60 or REI120 to BS EN 13501-2 to match hosting shaft wall as fire plans

   3.2. Reaction to fire: Class B-s3,d2 or better to BS EN 13501-1
4. Framing system: Sizes and spacing of framing and fixings as recommended by the board manufacturer.
5. All boards to suit structural member exposure on 3/4 sides as required.
   All boarding to suit A/V Section factor of steel as advised by manufacturer.
6. Finishing: Tape and jointed finish / skim finish

General/ preparation

300 Environment - ISO 14001

1. Manufacturer to demonstrate ISO 14001 certification across the entire business including: mining, manufacture, distribution, and all ancillary services to support the business function.

301 Enviroment - BREEAM

1. Prior to making any amendments to specifications consult with the design team and manufacturer responsible for the project for guidance. BREEAM (or similar environmental framework) ratings may be downgraded as a result of changes to this specification.

305 Compliance with performance requirements

1. Testing / Assessment: Submit UKAS accredited laboratory reports / summary report for the following:
    1.1. Fire resistance: All partitions (including deflection heads and doorsets), linings and suspended ceilings (including access units).
    1.2. Reaction to fire: All partitions, linings and suspended ceilings.
    1.3. Acoustic properties: All partitions, linings and suspended ceilings.
    1.4. Maximum air pressure and corresponding deflection limits: All partition and lining types.
    1.5. Strength grade to BS 5234-2: All partition and lining types.
2. Materials, components and details: As used in testing/ assessment reports. If discrepancies arise, give notice.

325 Preparation of masonry to receive wall linings

1. General: Suitable to receive lining system. Redundant fixtures and services removed. Cutting, chasing and making good completed.
2. Holes, gaps, service penetrations, perimeter junctions and around openings: Seal.
3. Adhesive fixings: Prepare substrate to achieve effective bonding.
    3.1. Contaminants: Remove loose material, dirt, grease, oil, paper, etc.
    3.2. Absorption: Control by dampening, priming or applying bonding agents as necessary.

375 New wet laid bases

1. Provide or ensure provision of a continuous strip of bituminous felt DPC or other approved material under partitions/freestanding wall linings, cut to the full width of the partition/lining.

385 Service penetrations

1. The dry lining contractor must liaise with the Main Contractor and other contractors to ensure that fire resistance and other specified performance requirements are not impaired by service penetrations.
   In particular:
    1.1. Form framed openings accurately for grouped services, ducts, etc. allowing for associated fire barriers.
    1.2. All service penetrations must observe minimum separation distances between openings as advised by the manufacturer for respective wall systems
    1.3. Penetrations shall be positioned to be independently clear of door jambs / support posts / deflections heads.
    1.4. Additional framing members to support openings and boarding of opening reveals are to be completed in accordance with manufacturers instructions.

395 Control samples

1. General: Complete areas of finished work and obtain approval of appearance before proceeding.
2. Type of dry lining: All types

2.1. Location/ Size: Location TBC. 4m wall length.

Components

400 Gypsum boards generally

1. Standard
   1.1. Gypsum plasterboard to BS EN 520.
   1.2. Gypsum fibre board to BS EN 15283-2.
   1.3. Evidence of compliance: Submit Declaration of Performance (DoP).

430 Access panels

1. Description: Seamless access panels to monolithic plasterboard ceilings
2. Manufactuer: Profab Access Ltd or acceptable equivalent.
   2.1. Product reference: Prima 1000 Series or acceptable equivalent.
3. Type: Wall / ceiling as required.
   3.1. Sizes: As required in detailed design.
   3.2. Acoustic performance: As acoustic consultant requirements.
4. Frame: Bead for taping and jointing
5. Panel: Metal; primed for site painting.
6. Lock: Tamper-proof and operated by castellated key.

Installation

435 Dry linings generally

1. Fixing, jointing and finishing materials and accessories, where not specified otherwise, to be as recommended by the board manufacturer.
2. Handle and store materials in accordance with BS 8000-8:2023. Do not use damaged boards.
3. Use operatives properly trained for dry lining work and who have attended a recognised training scheme.
4. Fix boards only in areas which have been made weathertight. Prevent frost damage.
5. Cut boards neatly and accurately without damage to core or tearing of paper facing. Keep cut edges to a minimum and position at internal angles wherever possible. Mask with bound edges of adjacent boards at external corners.
6. Fix boards securely and firmly to suitably prepared and accurately levelled backgrounds. Set heads of fastenings in a depression; do not break paper or gypsum core. Finish neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

445 Ceilings

1. Sequence: Fix boards to ceilings before installing dry lined walls and partitions.
2. Orientation of boards: Fix with bound edges at right angles to supports and with ends staggered in adjacent rows.
3. Two layer boarding: Stagger joints between layers.

455 Metal framing for partitions/ wall linings

1. Setting out: Accurately aligned and plumb.

1.1. Frame/ Stud positions: Equal centres to suit specified linings, maintaining sequence across openings.

1.2. Additional studs: To support vertical edges of boards.

2. Fixing centres at perimeters (maximum): 600 mm.

3. Openings: Form accurately.

3.1. Doorsets: Use sleeved or boxed metal studs and/ or suitable timber framing to achieve strength grade requirements for framing assembly and adequately support weight of door.

3.2. Services penetrations: Allow for associated fire-stopping.

465 Staggered stud partitions

1. Horizontal frame members (noggins, bearers, etc.) and boards: Fix between alternate studs and not touching adjacent offset studs.

475 Metal furrings for wall linings

1. Setting out: Accurately aligned and plumb.

1.1. Vertical furring positions: Equal vertical centres to suit specified linings, maintaining sequence across openings. Position adjacent to angles and openings.

1.2. Additional vertical furrings: To support vertical edges of boards and at junctions with partitions.

1.3. Horizontal furring positions: To provide continuous support to edges of boards.

2. Adhesive bedding to furrings

2.1. Dabs: Length 200 mm (minimum). Located at ends of furrings and thereafter at 450 mm (maximum) centres.

2.2. Junctions with partitions: Continuous bed with no gaps across cavity.

485 Suspended ceiling grids

1. Setting out: Accurately aligned and level.

1.1. Grid members and hangers: Centres to suit specified linings and imposed loads.

1.2. Additional grid members: Provide bracing and stiffening at upstands, partition heads, access hatches, etc.

2. Fixing: Securely at perimeters, grid joints, top and bottom hanger fixings.

505 Installing mineral wool insulation

1. Fitting insulation: Closely butted joints and no gaps. Use fasteners to prevent slumping or displacement.

2. Services

2.1. Electrical cables overlaid by insulation: Sized accordingly.

2.2. Ceilings: Cut insulation around electrical fittings, etc.

510 Sealing gaps and air paths

1. Location of sealant: To perimeter abutments and around openings.

1.1. Pressurized shafts and ducts: At board-to-board and board-to-metal frame junctions.

2. Application: To clean, dry and dust free surfaces as a continuous bead with no gaps.

2.1. Gaps greater than 6 mm between floor and underside of gypsum board: After sealing, fill with jointing compound.

530 Cavity fire barriers within partitions/ wall linings

1. Metal framed systems
   1.1. Material: Mineral wool / plasterboard fixed as recommended by board manufacturer.
   1.2. Installation: Form accurately and fix securely with no gaps to provide a complete barrier to smoke and flame.
2. Adhesive fixed wall lining systems
   2.1. Material: Adhesive compound.
   2.2. Installation: Form in a continuous line with no gaps to provide a complete barrier to smoke and flame.

545 Cavity fire barriers within suspended ceilings

1. Manufacturer: Rockwool or acceptable equivalent.
   1.1. Product reference: Fire Barrier System (50mm thick) or acceptable equivalent.
2. Fire resistance: EI 30/15
3. Ceiling void subdivision: Fix barriers not more than 20 m apart in any direction.
4. Fixing at perimeters and joints: Secure, stable and continuous with no gaps, to provide a complete barrier to smoke and flame.
5. Service penetrations: Cut and pack to maintain barrier integrity. Sleeve flexible materials. Adequately support services passing through barrier.
6. Ceiling systems for fire protection: Do not impair fire-resisting performance of ceiling system.
7. Additional requirements: As per manufacturer's recommendations to meet fire performance, location and size required. Additional support frame may be required.

555 Fire-stopping at perimeters of dry lining systems

1. Material: Tightly packed mineral wool or intumescent mastic/ sealant.
2. Application: To perimeter abutments to provide a complete barrier to smoke and flame.

560 Joints between boards

1. Tapered edged gypsum boards
   1.1. Bound edges: Lightly butted.
   1.2. Cut/ unbound edges: 3 mm gap.
2. Square edged plasterboards: 3 mm gap.
3. Square edged gypsum fibre boards: 5 mm gap.

565 Vertical joints

1. Joints: Centre on studs.
   1.1. Partitions: Stagger joints on opposite sides of studs.
   1.2. Two layer boarding: Stagger joints between layers.

570 Horizontal joints

1. Surfaces exposed to view: Horizontal joints not permitted. Seek instructions where height of partition/ lining exceeds maximum available length of board. Agree positions of joints where not specified.

2. Two layer boarding: Stagger joints between layers by at least 600 mm. If previous layer of plank plasterboard, stagger joints between layers by 300mm.
3. Edges of boards: Support using additional framing.
    3.1. Two layer boarding: Support edges of outer layer.

575 Plank plasterboard

1. First layer in two layer boarding: Square edged with long edges at right angles to studs.

590 Fixing gypsum board to metal framing/ Furrings

1. Partitions/ Wall linings: Fix securely and firmly at the following centres (maximum):
    1.1. Single layer boarding: To all framing at 300 mm centres. Reduce to 200 mm centres at external angles.
    1.2. Multi-layer boarding: Face layer at 300 mm centres, and previous layers around perimeters at 300 mm centres.
2. Ceilings: 230 mm. Reduce to 150 mm at board ends and at lining perimeters.
3. Position of screws from edges of boards (minimum): 10 mm.
    3.1. Screw heads: Set in a depression. Do not break paper or gypsum core.

595 Deflection heads

1. Fixing boards: Do not fix to head channels.

620 Fixing gypsum board with adhesive dabs

1. Set out furrings vertically, at specified centres and adjacent to angles, openings, movement joints, etc. Maintain centres of furrings across openings. Bed in 200mm long dabs of adhesive at each end of furring and thereafter at 450mm centres. Bed horizontal lengths of furring to provide continuous support to top and bottom edges of boards. Accurately align all furrings to a true, vertical plane. Install additional furrings where necessary to accept junctions with partitions. Use a continuous line of adhesive to ensure there are no gaps across the cavity.
2. Before/during installation of dry lining system, fully seal all airpaths around the perimeter of the background and around structural openings and service penetrations through the background using adhesive. Apply as a continuous fillet, leaving no gaps.

Finishing

650 Level of dry lining across joints

1. Sudden irregularities: Not permitted.
2. Joint deviations: Measure from faces of adjacent boards using methods and straightedges (450 mm long with feet/ pads) to BS 8212, clause 3.3.5.
    2.1. Tapered edge joints
        2.1.1. Permissible deviation (maximum) across joints when measured with feet resting on boards: 3 mm.
    2.2. External angles
        2.2.1. Permissible deviation (maximum) for both faces: 4 mm.
    2.3. Internal angles
        2.3.1. Permissible deviation (maximum) for both faces: 5 mm.

670 Seamless jointing to gypsum boards

1. Cut edges of boards: Lightly sand to remove paper burrs.
2. Filling and taping: Fill joints, gaps and internal angles with jointing compound and cover with continuous lengths of paper tape, fully bedded.
3. Protection of edges/ corners: Reinforce external angles, stop ends, etc. with specified edge/ angle bead.
4. Finishing: Apply jointing compound. Feather out each application beyond previous application to give a flush, smooth, seamless surface.
5. Nail/ screw depressions: Fill with jointing compound to give a flush surface.
6. Minor imperfections: Remove by light sanding.

680 Skim coat plaster finish

1. Plaster type As recommended by board manufacturer..
    1.1. Thickness: 2-3 mm.
2. Joints: Fill and tape except where coincident with metal beads.
3. Finish: Tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

692 Rigid beads/stops

1. Internal: To BS EN 13658-1.
2. External: To BS EN 13658-2.

695 Installing beads/ Stops

1. Cutting: Neatly using mitres at return angles.
2. Fixing: Securely using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.
3. Finishing: After joint compounds/ plasters have been applied, remove surplus material while still wet from surfaces of beads exposed to view.

725 Repairs to existing gypsum board

1. Performance of repairs must match original specified performances.
2. Filling small areas with broken cores: Cut away paper facing, remove loose core material and fill with jointing compound.
    2.1. Finish: Flush, smooth surface suitable for redecoration.
3. Large patch repairs: Cut out damaged area and form neat hole with rectangular sides. Replace with matching gypsum board.
    3.1. Fixing: Use methods to suit type of dry lining, ensuring full support to all edges of existing and new gypsum board.
    3.2. Finishing: Fill joints, tape and apply jointing compound to give a flush, smooth surface suitable for redecoration.

Ω End of Section

K13
Rigid sheet fine linings and panelling

Types of lining and panelling

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.
5. All services to be concealed. No surface mounted services and conduits allowed. Existing socket / light switch locations to be reused where possible. Any unused penetrations to be repaired to specialist subcontractor recommendations.

105 Wood-based sheets generally

1. Standard: To BS EN 13986.
   1.1. Evidence of compliance: All sheets to be UKCA/ UKNI/ CE marked. Submit Declaration of Performance (DoP).

120 Existing elm veneered paneling - Lobby

1. Description: Existing elm veneered paneling to Lobby.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.
3. Panelling repairs / refurbishment: - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.
5. Brass trims: To be polished (using Brasso or Duraglit) and spray lacquer finish to prevent tarnishing to specialist subcontractor recommendations. Missing trims to be replaced with new to match existing.

6. Aluminium skirtings (where present): As P20/151.

121 Existing perforated elm veneered paneling - Council Chamber

1. Description: Existing perforated elm veneered paneling to Council Chamber.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.

   Dismantle and re-build to allow MEP installations / acoustic insulation / thermal insulation installation – as spec C51/721 (see above) refer to 21 series drawings / MEP drawings for locations.
2. General repair: As C51.
3. Panelling repairs / refurbishment: - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.
5. Brass trims: To be polished (using Brasso or Duraglit) and spray lacquer finish to prevent tarnishing to specialist subcontractor recommendations.
6. Ventilation grilles: To be repaired, cleaned and reinstalled to specialist subcontractor recommendations.
7. Aluminium skirtings : As P20/151
8. Concealed lighting: Upgrade to MEP specification.
9. Concealed lighting covers: To be repaired, cleaned and reinstalled or replaced to match to specialist subcontractor recommendations.
10. Additional requirements: Any panelling retained in-situ will need to be protected while the ceiling is being replaced (3mm correx and plastic sheeting).

122 Existing timber paneling - Council Chamber Ante-room

1. Description: Exiting painted hardboard (TBC) to circulation area.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.
3. Panelling repairs / refurbishment: Lightly sand back paintwork to provide smooth finish suitable for new coat.
4. Paint finish: As M60/150.

123 Existing slatted timber paneling - Council Chamber Ante-room

1. Description: Existing slatted timber paneling to Council Chamber Ante-room incorporating fire hose cupboard / slatted timber panelling to south escape stair door wall (end of corridor).

   Refer to:

- Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
- Room data sheets.
- General note 001 above.

2. General repair: As C51. Vertical sections of timber should individually be checked for firm fixing.
3. Panelling repairs / refurbishment: - Adjust doors so that the doors operate / close properly.
- Repair the interior of the cupboards so that they are functional.
- Clean as C51/750.
- Lightly sand.
4. Finish: As M60/161. It should be noted that the individual elements are of slightly different colour and no attempt should be made to unify the colour differences when re-finishing.
5. Brass elements: To be polished (using Brasso or Duraglit) and spray lacquer finish to prevent tarnishing to specialist subcontractor recommendations.
6. Aluminium skirtings : As P20/151

124 Existing elm timber paneling - General

1. Description: Existing elm timber paneling.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.
3. Panelling repairs / refurbishment: - Iron down lifting veneer.
- Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
- Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
- Clean as C51/750.
- Lightly sand.
4. Finish: As M60/161.
5. Aluminium skirtings : As P20/151

125 Replacement existing elm timber paneling - Committee rooms

1. Description: Replacment of existing elm timber paneling to Committee rooms.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair and replacement: As C51.
3. Panelling repairs / refurbishment: - Iron down lifting veneer.
- Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
- Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
- Clean as C51/750.
- Lightly sand.
4. Finish: As M60/161.
5. Aluminium skirtings : As P20/151

126 Existing bespoke feature wall - Council Chamber

1. Description: Existing bespoke feature wall to Council Chamber.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General timber repair: As C51.
3. Timber panelling repairs / refurbishment: - Remove notices stuck to paneling chemically as specialist subcontractor recommendations to minimise damage to panels.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.
5. Leatherette finish: Vacuum with suitable soft brush attachments.
   Wipe with damp cloth with pH neutral household cleaner and wipe with microfiber cloth followed by rinsing with damp clean microfiber cloth. Dry fully with a fresh cloth after cleaning.
   For stains use faux leather stain remover as per manufacturer instructions.
   Apply faux leather protector as manufacturer recommendations.

   Cleaning / repair process to be developed and validated by specialist subcontractor
6. Aluminium frames / glazed elements: To be repaired, cleaned and reinstalled to specialist subcontractor recommendations. Glazing below height of 800mm above floor level to have strengthening film as L40/610
7. Aluminium skirtings : As P20/151
8. Ironmongery: Repair and replace as required to specialist subcontractor recommendations to achieve fully functioning operation .

127 Existing timber slat paneling - Council chamber gallery

1. Description: Existing timber slat paneling to Council chamber gallery.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51. Vertical sections of timber should individually be checked for firm fixing.
3. Panelling repairs / refurbishment: - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161. It should be noted that the individual elements are of slightly different colour and no attempt should be made to unify the colour differences when re-finishing.

128 Existing elm timber paneling - Modifications

1. Description: Existing elm timber paneling to Registrar and small meeting rooms.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.

3. Panelling repairs / refurbishment: - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.
5. Aluminium skirtings : As P20/151
6. Other requirements: Modify paneling to accommodate service distribution and insulation - refer to drawing wall finishes drawings series -42.

129 Existing mahogony paneling - Council Chamber

1. Description: Existing ridged mahogany elements either side of window. South is fixed and north is access panel with spring loaded hinges and a key bolt.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.
3. Panelling repairs / refurbishment: - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.
5. Spring hinges: Refurbish as required to achieve fully functioning access panel fit for purpose.
6. Note the allowance for movement at the screws in the cross battens.

130 Existing timber plank ceiling paneling - Registrar

1. Description: Original timber paneling planks to large wedding room window.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.
3. Panelling repairs / refurbishment: Carefully remove redundant wiring and fixings.
   Fill small holes with hard wax to match colour.
   - Clean as C51/750.
   - Lightly sand.
4. Finish: As M60/161.

131 Existing timber access ceiling paneling - Committee corridor

1. Description: Existing timber access ceiling paneling to Committee corridor.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.

- Room data sheets.
- General note 001 above.

2. Genreal repair: As C51.
3. Panelling repairs / refurbishment: - Repair metal framework as required
   - Repair damaged veneers and substrate to match existing
   - Clean as C51/750.
4. Finish: As M60/161
5. Other: Future access provision to allow MEP systems maintenance.

160A Birch plywood window linings

1. Description: Birch ply window reveals, cill and head.
2. Substrate: Subject to location as shown in drawing.
3. Location and size: As shown in drawings
4. Panels
   - 4.1. Manufacturer: Contractor to submit proposals
     - 4.1.1. Product reference: Contractor to submit proposals. Subject to samples and architect's approval.
   - 4.2. Facing: Wood veneer species: Birch. To match approved sample.
     Cutting: Quarter cut
     Matching of individual panels: Book matching
     Orientation of grain: Vertical
   - 4.3. Finish as delivered: Two coats of clear non-intumescent lacquer, 10% matt sheen.
   - 4.4. Scheme matching: Adjacent panels to match sequentially.
     Veneers to be consistent in grain and colour, and grain to run vertically (unless otherwise specified). Veneers to be selected and matched to present a continuous uniform appearance over all adjoining surfaces.
   - 4.5. Moisture content at time of fixing: To comply with BS EN 942 for temperatures 12-21°C / above 21°C.
   - 4.6. Fire performance: Exposed surfaces of panels to have European Class B-s3,d2 performance to BS EN 13501-1 without special treatment.
   - 4.7. Edge treatment: Matching jointing pieces / trims to be supplied as required.
5. Installation
   - 5.1. Method of fixing panels: Concealed fixings.
   - 5.2. Joint treatment: Panel-to-panel joints to be butted.

160B Plywood panelling - Painted

1. Description: Grey panels to match the core walls to be integrated with door to comms room as L20/412.
2. Substrate: Subject to location as shown in drawing.
3. Size: Full height vertical panels as per elevation 2700mm height to match design intent as shown in drawings (Refer to core drawing HCC-HBA-ZZ-ZZ-DR-A-420501)
4. Panels
   - 4.1. Manufacturer: Contractor to submit proposals
     - 4.1.1. Product reference: Contractor to submit proposals. Subject to samples and architect's approval. To match doors as L20/412.
   - 4.2. Colour: Grey TBC

4.3. Moisture content at time of fixing: To comply with BS EN 942 for temperatures 12-21°C / above 21°C.

4.4. Fire performance: Exposed surfaces of panels to have European Class B-s3,d2 performance to BS EN 13501-1 without special treatment.

4.5. Edge treatment: Concealed edge lippings of minimum 7mm thickness as manufacturer recommendations.
Lippings to be square.
Matching jointing pieces / trims to be supplied as required.

5. Installation

5.1. Method of fixing panels: Concealed fixings.

5.2. Joint treatment: Panel-to-panel joints to be butted.

160C Lobby Plywood panelling

1. Description: Fire retardant veneered panelling to lift lobby
2. Substrate: Subject to location as shown in drawing.
3. Location: Each panel to be identified and installed in the designated location as shown on plan drawing reference HCC-HBA-AB-ZZ-DR-A-240010.
4. Size: Full height Vertical panels as per elevation 2700mm height to match design intent as shown in drawings.
5. Panels

5.1. Manufacturer: Shadbolt International or acceptable equivalent.

5.1.1. Product reference: Shadflam Euroclass B wood veneered panels or acceptable equivalent. Subject to samples and architect's approval. To match pocket doors as L20/411.

5.2. Core material: High density homogeneous timber particle board.

5.3. Facing: Wood veneer species: Birch. To match approved sample.
Cutting: Quarter cut
Matching of individual panels: Book matching
Orientation of grain: Vertical

5.4. Finish as delivered: Two coats of clear non-intumescent lacquer, 10% matt sheen.

5.5. Scheme matching: Panels [and doors] to be plan matched floor by floor in accordance with plan drawings.
Adjacent panels to match sequentially.
Veneers to be consistent in grain and colour, and grain to run vertically (unless otherwise specified). Veneers to be selected and matched to present a continuous uniform appearance over all adjoining surfaces.

5.6. Moisture content at time of fixing: To comply with BS EN 942 for temperatures 12-21°C / above 21°C.

5.7. Fire performance: Exposed surfaces of panels to have European Class B-s3,d2 performance to BS EN 13501-1 without special treatment.

5.8. Edge treatment: Concealed edge lippings of minimum 7mm thickness in near matching hardwood, applied using radio-frequency glue without tongue to all four edges, before / after veneering as manufacturer recommendations.
Lippings to be square.
Matching jointing pieces / trims to be supplied as required.

6. Installation

6.1. Method of fixing panels: Concealed fixings.

6.2. Joint treatment: Panel-to-panel joints to be butted.

7. Included features: Seamless Access panels to be integrated
8. Site conditions: Site conditions before, during and after installation to comply with manufacturer's instructions, including temperature to be in the range 13oC to 21oC (55oF to 70oF) and relative humidity to be conducive to an optimal product moisture content of in the range of 10% to 12%.
   Site handling and storage to be in accordance with manufacturer's instructions.

161 Perforated Aluminium Paneling

1. Description: Perforated aluminium panelling to welcome space.
2. Substrate: Secondary steelwork to specialist subcontractor design.
3. Location: Refer to drawing drawing -210353 and 42 series wall finishes drawings.
4. Size: High level panels above curtain walling as shown in drawings.
5. Panels
   5.1. Manufacturer: Contractor submit proposals.
      5.1.1. Product reference: Contractor submit proposals.
   5.2. Material : Aluminium.
   5.3. Finish as delivered: PPC to match curtain walling.
   5.4. Perforation: Standard circular holes perforation patter - free opening area to MEP requirements
6. Installation
   6.1. Method of fixing panels: Concealed fixings.
   6.2. Joint treatment: Panel-to-panel joints to be butted with nom. 5mm gaps. Setting out to match curtain walling

170A Slatted timber panel lining

1. Description: Slatted timber decorative lining in British Walnut. Refer to drawing -420500 for design intent details.
2. Substrate: Timber battens to manufacturer recommendations.
3. Battens: Softwood free from decay and active insect attack and with no knots wider than half the width of the section.
   3.1. Finished size: As recommended by manufacturer.
   3.2. Moisture content at time of fixing (maximum): 18%.
   3.3. Spacing (centres): As recommended by manufacturer.
   3.4. Method of fixing: As recommended by manufacturer.
4. Fire rating: To BS EN 13501-1 B-s3,d2
5. Installation
   5.1. Method of fixing panels: Concealed fixings as recommended by manufacturer.

170B Acoustic wall panels

1. Acoustic insulation: Acoustic wall panels
   1.1. Manufacturer: Autex Acoustics Ltd or acceptable equivalent
      1.1.1. Product reference: Cube™ (Cube™ 24 mm) or acceptable equivalent
   1.2. Form: Panel.

1.3. Rigidity: Semi rigid.
1.4. Application: Wall mounted with 25mm air gap behind
1.5. Material: Polyester fibre (PET).
1.6. Acoustic performance
1.6.1. Purpose: Absorber.
1.6.2. Sound absorption: To acoustic consultant requirements.
1.7. Fire performance
1.7.1. Reaction to fire: To BS EN 13501-1, Class B-s2,d2.
1.8. VOC emissions: 0.092 mg/m³.
1.9. Dimensions
1.9.1. Size (length x width): 1200 x 2400 mm.
1.9.2. Thickness (overall): 24 mm.
1.10. Profile: Geometric profile.
1.11. Edges: Square.
1.12. Surface pattern: Planks.
1.13. Colour: TBC by client representative.
1.14. Accessories: Fittings for wall mounting and all other acccessories as recommended by manufacturer.

170C Slatted timber panel lining

1. Description: Slatted timber decorative lining in birch. Refer to 42 Series for scoping and joinery drawings for design intent details - HCC-HBA-ZZ-ZZ-DR-A-420500.
2. Substrate: Timber battens to manufacturer recommendations.
3. Battens: Softwood free from decay and active insect attack and with no knots wider than half the width of the section.
   3.1. Finished size: As recommended by manufacturer.
   3.2. Moisture content at time of fixing (maximum): 18%.
   3.3. Spacing (centres): As recommended by manufacturer.
   3.4. Method of fixing: As recommended by manufacturer.
4. Fire rating: To BS EN 13501-1 B-s3,d2
5. Installation
   5.1. Method of fixing panels: Concealed fixings as recommended by manufacturer.

General requirements

220 Material samples

1. Representative samples of designated materials: Submit before placing orders.
2. Designated materials: All types.

230 Control samples

1. Sample area: Complete as part of the finished work.
   1.1. Clause reference: All types
   1.2. Location: To be agreed.

1.3. Size (minimum): Min. 5sqm.

1.4. Included features: Panel joint and all edges.

2. Approval of appearance: Obtain before proceeding.

260 Environmental conditions

1. General requirements prior to starting work specified in this section: Building weathertight; wet trades completed and affected areas dried out.
2. Temperature and humidity before, during and after fixing lining/ panelling: Maintained at levels approximating to those which will prevail after building is occupied.

Fabrication/ fixing/ finishing

310 Accuracy of fabrication

1. Site dimensions: Take as necessary before starting fabrication.
   1.1. Discrepancies with drawings: Report without delay and obtain instructions before proceeding.
2. Permissible deviations for panels
   2.1. Length: ± 1.5 mm.
   2.2. Width: ± 1.5 mm.
   2.3. Squareness (taking the longer of 2 sides at a corner as a baseline and measuring the deviation of the shorter side from the baseline perpendicular): ± 1.5 mm in 1 m.
   2.4. Flatness (of panels with a core thickness of 12 mm and over, as delivered to site): ± 1 mm under a 600 mm straightedge.

350 Fixing linings and panelling

1. Setting out: Accurate, true to line and level, free from undulations and lipping, with lines and joints aligned, straight and parallel unless specified otherwise.
2. Movement allowance: Adequate for future moisture and temperature movement of boards.
3. Fixing of panels: Secure, to prevent pulling away, bowing, or other movement during use.
4. Methods of fixing and fasteners: As section Z20 unless specified otherwise.
5. Trims: Wherever possible, to be in unjointed lengths between angles or ends of runs.
   5.1. Running joints: Where unavoidable, submit proposals for location and method of jointing.
   5.2. Angle joints: Mitred, unless specified otherwise.

360 Open joints (joints without cover strips or similar)

1. General: Within a joint (including in-line continuations across transverse joints) greatest width must not exceed the least width by more than: 0.5mm in 1 metre. 1mm in 2 metres. 1.5mm in 3 metres.
2. Variations in width: Evenly distributed with no sudden changes. Joints with bevelled edges to be measured to the face arrises.

480 Clear finished wood

1. Refer to C51.
2. Nail holes: Filled with hard wax coloured to match wood.
3. Prepared surface: Smooth, closed and free from sanding marks.

4. Finish: Smooth, free from brush marks, nibs, sags, runs and other defects.

Ω End of Section

K32
Panel cubicles/ duct and wall linings/ screens

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

160 Glass shower lining

1. Manufacturer: Creo Glass or acceptable equivalent.
   1.1. Product reference: Glass Cladding or acceptable equivalent.
2. Material: 6mm low iron glass
3. Colour: To match adjacent walls - allow for four colours.
4. Edge treatment: Radiused and polished - black.
5. Sanitaryware appliances: As drawings and N13.
6. Fixing: As manufacturer recomendations.
7. Other requirements: Made to measure with seamless finish.
   Silicone sealant as manufacturer recommendations and Z22 to leave non-porous surface.
   To follow all manufacturer recommdations and assocated fittings.

210 Samples

1. General: Before placing orders submit representative samples of the following: Panel material and colours.
2. Delivered materials/ products: To match samples.

220 Control samples

1. General: Complete samples as part of finished work and obtain approval of appearance before proceeding.
2. Types: Typical WC.

250 Installation

1. Programming: Do not install cubicles or duct/ wall panels before building is weathertight, wet trades have finished their work, wall and floor finishes are complete, and the building is well dried out.
2. Accuracy: Set out to ensure frames and/ or panels and doors are plumb, level and accurately aligned.
3. Modifications: Do not cut, plane or sand prefinished components except where shown on drawings.
4. Fixing: Secure components using methods and fasteners recommended by the cubicle/ panel manufacturer. Prevent pulling away, bowing or other distortions to frames, panels and doors.
5. Moisture and thermal movement: Make adequate allowance for future movement.

Ω End of Section

K40
Demountable suspended ceilings

Types of ceiling system

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

120 Suspended acoustic ceiling rafts

1. Ceiling system manufacturer: Saint-Gobain Ecophon or acceptable equivalent.
   1.1. Product reference: Solo™ Rectangle or acceptable equivalent.
2. Ceiling support: M404 and M407 Free hanging unit to match height as Reflected Ceiling Plans
3. Support fasteners: Connect™ Absorber anchor.
4. Ceiling units: Acoustic high-density glass wool panels.
5. System accessories: As manufacturer's recommendations.
6. Size (l x w): Annex: 3000 x 1200 mm.
   Civic Centre: 1800 x 1200 mm.
7. Thickness: 40 mm.
8. Colour/ Finish: White Frost TBC.
9. Indoor climate: Recommended by the Swedish Asthma and Allergy Association. Certified as A+ by French VOC. Emission classification of building materials: M1.
10. Moisture resistance: Class C, relative humidity 95% and 30°C, according to EN 13964:2014.
11. Fire safety: To BS EN 13501-1, Class A2-s1, d0.
12. Sound absorption: To EN ISO 354:2003.
13. Cleaning: The ceiling system can withstand daily dusting and vacuum cleaning, and weekly wet-wiping.

121 Suspended acoustic ceiling baffles

1. Ceiling system manufacturer: Autex Acoustics Ltd or acceptable equivalent.
   1.1. Product reference: Frontier Acoustic Modular Ceiling System Tundraor acceptable equivalent.

2. Form: Baffle.
3. Rigidity: Semi rigid.
4. Application: Ceiling mounting.
5. Material: Polyester fibre (PET).
6. Acoustic performance
    6.1. Purpose: Absorber.
    6.2. Sound absorption: Refer to acoustic consultant report for reverberation requirements.
7. Fire performance
    7.1. Reaction to fire: To BS EN 13501-1, Class B-s2,d2.
8. VOC emissions: 0.092 mg/m³.
9. Dimensions
    9.1. Size (length x width): 2400 x 2400 mm.
    9.2. Thickness (overall): 24 mm.
10. Profile: Linear.
11. Edges: Square.
12. Surface pattern: Solid.
13. Colour: TBC with client representative.
14. Design: Tundra 150.
15. Installation: Refer to Frontier Install Instructions for installation guidelines.

125 Suspended acoustic ceiling rafts - Timber

1. Standard: To BS EN 13964.
2. Evidence of compliance: All ceilings kits to be UKCA/ UKNI/ CE marked. Submit Declaration of Performance (DoP).
3. Ceiling system manufacturer: Stil Acoustics or acceptable equivalent.
    3.1. Product reference: Type HFU - Horizontal slatted timber acoustic ceiling or acceptable equivalent.
4. Delivery: Panellised system made to site dimensions
5. Fire performance: BS 476: Part 6 & 7 Class O (Euroclass B) with Fire lacquer treatment.
6. Acoustic performance: Class A sound absorbtion
7. Face dimensions: 45mm +/-1mm
8. Finished thickness: 20mm +/-1mm
9. Slat centres: 90mm (45mm spacings between slats)
10. 20mm +/-1mm: Square
11. Module length:: Maximum 2950mm - Any joint positions to be signed off by the architect prior to production
12. Module width: Maximum 600mm - dependant on module length for ease of handling
13. Panel sizes: Prefabricated to site dimensions
14. Joints to slat ends: min 5mm shadow gap
15. Timber species: Birch - finish to match core walls.
16. Substrate: 18mm MDF open structure frame
17. Timber class: Best available

18. Moisture content at time of fixing: 10-18%
19. Design: Panellised system made to site dimensions. Stil Acoustics to produce project drawings to be signed off by architect
20. Membrane: Black acoustically transparent fleece behind slats. Non-woven polyester with Euroclass B fire performance.
21. Insulation: 45g/m3 Mineral fibre Insulation at 50mm. Loose laid to the rear
22. Services: Services to be coordinated with supplier at final design stage. Lighting to be concealed between slats . Refer to MEP information and seek manufacturer recommendations during detailed design stage.
23. Panel suspension system: Proprietary brackets supplied for suspension from Unistrut. Setting out dictated by Stil Acoustics working drawings. Localised access panels to be integrated at detailed design stage for regular access.
24. Fire treatment: Clear fire retardant lacquer to all faces. 10% sheen. BS 476: Part 6 & 7 Class O (Euroclass B)

General/ performance

205 Compliance with performance requirements

1. Testing/ assessment: Submit UKAS accredited laboratory reports for the following: Fire performance.
2. Materials, components and details: Use those used in the test and identified in the assessment reports. If discrepancies arise, give notice.

210 Environment

1. Environmental classification to BS EN 13964: Class A
2. Release of Formaldehyde to BS EN 13964: Class E1
3. Susceptibility to growth of harmful micro-organisms to BS EN 13964: Level A

225 Fire performance

1. Completed ceiling system: All ceiling types
2. Reaction to fire ratings
    2.1. Ceiling soffit surfaces: Refer to fire strategy report
    2.2. Ceiling void surfaces: Refer to fire strategy report
3. Fire resistance
    3.1. Overall fire resistance: Refer to fire strategy report
    3.2. Ceiling resistance: Refer to fire strategy report
    3.3. Other protection: Refer to fire strategy report
4. Test reports or assessments: Include details of performance related to the particular elements of construction.
    4.1. Ceilings with integrated luminaires: Test/ assess with luminaires in place.

230 Acoustic performance

1. Description: For clause 120 and 125.
2. Sound absorption to BS EN ISO 11654: Class A, in accordance with acoustic engineer's report

Components

240 Samples

1. General: Submit representative samples of the following: Panels for clause 120 and 125. Refer to samples and mockup schedule HCC-HBA-XX-XX-SH-A-310000 .

245 Standards

1. Steel panels: To BS EN 10346.
2. Aluminium sheet, strip and plate: To BS EN 485-1 and -2.
3. Aluminium bars, tubes and sections: To relevant parts of BS EN 515, BS EN 573, BS EN 755 and BS EN 12020.

287 Cavity fire barriers within suspended ceilings

1. Manufacturer: Rockwool or acceptable equivalent.
    1.1. Product reference: Fire Barrier System (50mm thick) or acceptable equivalent.
2. Fire resistance: EI 30/15
3. Ceiling void subdivision: Fix barriers not more than 20 m apart in any direction.
4. Fixing at perimeters and joints: Secure, stable and continuous with no gaps, to provide a complete barrier to smoke and flame.
5. Service penetrations: Cut and pack to maintain barrier integrity. Sleeve flexible materials. Adequately support services passing through barrier.
6. Ceiling systems for fire protection: Do not impair fire-resisting performance of ceiling system.
7. Additional requirements: As per manufacturer's recommendations to meet fire performance, location and size required. Additional support frame may be required.

Execution

302 Control samples

1. General: Complete areas as part of the finished work in the following locations: First 5sqm of finished works - Contractor to submit location proposal.
2. Approval: Obtain before completing areas of similar work.

305 Setting out

1. General: Completed ceiling should present, over the whole of its surface exposed to the room below, a continuous and even surface, jointed (where applicable) at regular intervals.
2. Infill and access units, integrated services: Fitted correctly and aligned.
3. Edge/ perimeter infill units size (minimum): Half standard width or length.
4. Corner infill units size (minimum): Half standard width and length.
5. Grid: Position to suit infill unit sizes. Allow for permitted deviations from nominal sizes of infill unit.
6. Infill joints and exposed suspension members: Straight, aligned and parallel to walls, unless specified otherwise.
7. Suitability of construction: Give notice where building elements and features to which the ceiling systems relate are not square, straight or level.

310 Bracing

1. General: Secure, with additional bracing and stiffening to give a stable ceiling system resistant to design loads and pressures.

315 Protection

1. Loading: Do not apply loads for which the suspension system is not designed.
2. Ceiling materials: When necessary, remove and replace correctly using special tools and clean gloves, etc. as appropriate.

320 Top fixing

1. Building structure: Verify suitability.
2. Structural soffit: Concrete slab.
    2.1. Suitability to receive specified fixings: Evaluate and confirm.
3. Fixing generally: In accordance with BS EN 13964.
4. Fixing to
    4.1. Concrete: Drill and insert suitable expanding anchors.
    4.2. Aerated concrete: Fix through from the top of concrete units and provide a system of primary support channels.
    4.3. Structural steel: Drill, or use suitable proprietary clips/ adaptors.
    4.4. Metal roof decking: Fix to sides of liner tray corrugations.
    4.5. Timber: Fix to side of joists at least 50 mm from bottom edge. If ceiling system is intended for fire protection, fix into top third of joists.
    4.6. Hollow structural members: Submit fixing proposals.

325 Installing hangers

1. Wire hangers: Straighten and tension before use.
2. Installation: Install vertical or near vertical, without bends or kinks. Do not allow hangers to press against fittings, services, or insulation covering ducts/ pipes.
3. Obstructions: Where obstructions prevent vertical installation, either brace diagonal hangers against lateral movement, or hang ceiling system on an appropriate rigid sub-grid bridging across obstructions and supported to prevent lateral movement.
4. Extra hangers: Provide as necessary to carry additional loads.
5. Fixing
    5.1. Wire hangers: Tie securely at top with tight bends to loops to prevent vertical movement.
    5.2. Angle/ strap hangers: Do not use rivets for top fixing.
6. Spacings: To manufacturer's recommendations.

335 Perimeter trims

1. Jointing: Neat and accurate, without lipping or twisting.
    1.1. External and internal corners: Mitre joints generally. Overlap joints at internal corners are not acceptable.
    1.2. Intermediate butt joints: Minimize. Use longest available lengths of trim. Align adjacent lengths.
2. Fixing: Fix firmly to perimeter wall, edge battens or other building structure.

2.1. Fasteners: To manufacturer's recommendations.

2.2. Fixing centres: To manufacturer's recommendations.

355 Installing infill units

1. General
   1.1. Perimeter infill units: Trimmed, as necessary, to fully fill space between last grid member and perimeter trim. Prevent subsequent movement.
   1.2. Deeply textured infill units: Minimize variations in apparent texture and colour. In particular, avoid patchiness.
2. Concealed grids: Install infill units uniformly, straight and aligned. Avoid dimension creep.
   2.1. Infill units around recessed luminaires and similar openings: Prevent movement and displacement.

385 Upstands and bulkheads

1. Vertical ceiling systems: Support and brace to provide alignment and stability.
2. High upstands: Provide support at base of upstand.

390 Openings in ceiling materials

1. General: Neat and accurate. To suit sizes and edge details of fittings. Do not distort ceiling system.

395 Integrated services

1. General: Position services accurately, support adequately. Align and level in relation to the ceiling and suspension system. Do not diminish performance of ceiling system.
2. Small fittings: Support with rigid backing boards or other suitable means. Do not damage or distort the ceiling.
   2.1. Reaction to fire of additional supporting material: Not less than ceiling material.
3. Services outlets
   3.1. Supported by ceiling system: Provide additional hangers.
   3.2. Independently supported: Provide flanges to support ceiling system.

401 Ceiling-mounted luminaires

1. Support: Independent / by ceiling system subject to location.
   1.1. Independently supported luminaires: Suspension adjusted to line and level of ceiling.
   1.2. Ceiling supported luminaires: Modifications and/ or extra support required: as recommended by manufacturer.
2. Surface mounted luminaires: Units installed so that in event of a fire the designed grid expansion provision is not affected.
3. Modular fluorescent recessed luminaires: Compatible with ceiling module. Extension boxes must not foul ceiling system.
4. Recessed rows of luminaires: Provide flanges for support of grid and infill units, unless mounted above grid flanges. Retain in position with lateral restraint.
5. Fire-protecting/ resisting ceiling systems: Luminaires must not diminish protection integrity of ceiling system.
6. Access: Provide access for maintenance of luminaires.

411 Mechanical services

1. Fan coil units
   1.1. Space beneath: Sufficient for ceiling system components.
   1.2. Suspension and connections: Permit accurate setting out and levelling of fan coil units.
2. Air grilles and diffusers
   2.1. Setting out: Accurate and level.
   2.2. Linear air diffusers: Retain in place with lateral restraint. Provide flanges for support of grid and infill units.
   2.3. Grille/ Diffuser ceiling joints: Provide smudge rings and edge seals.
3. Smoke detectors and PA speakers
   3.1. Ceiling infill units: Scribe and trim to suit.
   3.2. Independent suspension: Not required.
   3.3. Flexible connections: Required.

415 Installing insulation

1. Fitting: Fit accurately and firmly with butted joints and no gaps.
2. Insulation within individual infill units: Fit closely. Secure to prevent displacement when infill units are installed or subsequently lifted.
   2.1. Dustproof sleeving: Reseal, if cut.
3. Width: Lay insulation in the widest practical widths to suit grid member spacings.
4. Services: Do not cover electrical cables that have not been sized accordingly. Cut insulation carefully around electrical fittings, etc. Do not lay insulation over luminaires.
5. Sloping and vertical areas of ceiling system: Fasten insulation, to prevent displacement.

425 Installing cavity fire barriers

1. Maximum ceiling void dimension in any direction: Refer to Fire Strategy requirements and fire engineer's report.
2. Fixing: Secure barrier at head and base using proprietary angle support system.
   2.1. General: Fix barriers securely to channels or angles at abutments to building structure.
   2.2. At perimeters and joints: Provide permanent stability and continuity with no gaps to form a complete barrier to smoke and flame.
3. Joints: Form to preserve integrity in fire.
4. Service penetrations: Cut barriers neatly to accommodate services. Fit fire-resistant sleeves around flexible materials. Fill gaps around services to fire barrier manufacturer's recommendations to maintain barrier integrity. Adequately support services passing through the barrier.
5. Ceiling systems intended for fire protection: Do not impair fire-resisting performance of ceiling system.
6. Ceiling systems not intended for fire protection: Do not mechanically interlink barriers with ceiling system.

Completion

505 Tools

1. Access tools: At Completion, supply one set of the following: all tools required as recommended by manufacturer. .

520 User instructions

1. Contents: Include the following:
   1.1. Correct methods for removing and replacing infill units and other components.
   1.2. Cleaning methods and materials.
   1.3. Recommendations for redecoration.
   1.4. Ceiling systems intended for fire protection: Limitations placed on subsequent alterations and maintenance procedures, to ensure that their fire performance is not impaired.
   1.5. Maximum number, position and value of point loads that can be applied to ceiling system after installation.

530 Spares

1. General: At practical completion, supply the following: 10 tiles for all ceiling systems.

Ω End of Section

K41
Raised access floors

Types of raised access floor

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

130A Raised access floor - New build

1. Description: Raised 600 x 600mm floor panels for office space, meeting rooms and toilet areas. Finishes vary - refer to floor finishes drawings (-43 series)
2. Manufacturer: Bathgate Flooring Ltd or acceptable equivalent.
   2.1. Product reference: Permaflor BGM600S (for think floor coverings) / Permaflor BGH600S (for terrazzo) or acceptable equivalent.
3. System performance: Medium grade to MOB PF2 PS/SPU / Heavy grade to MOB PF2 PS/SPU
   3.1. Uniformly distributed load (UDL): BGM600S: 8.0kN / BGH600S: 12.0kN
   3.2. Point load: BGM600S: 3.0kN / BGH600S: 4.5kN
   3.3. Fire performance: Class ‘O’ spread of flame, BS476-6 & BS476-7.
   3.4. Airborne insulation (Dnfw): 42dB
   3.5. Impact insualtion (Lnfw): 68dB
4. Overall height: Varies -panels to be adjustable l to meet different floor finishes. Raised Floor in Council chamber to enable floor fininsh to meet existing levels.
5. Panels: 600 x 600mm
   5.1. Panel thickness: BGM600S: 31mm / BGH600S: 32mm
   5.2. Core material: 30mm high density particle board
6. Subfloor preparation: Dustproofing sealers.
7. Support structure type: Access floor pedestals - BH steel pedestals.
8. Barriers in floor void
   8.1. Plenum barriers: As K41/340.
9. Additional requirements: - To be built strictly following manufacturers certified systems and standard details.

- Access hatches required within floor where required to manufacturer's recommendations and as coordinated with MEP consultant during next stage.
- Oversize panels to be used at perimeters as necessary in order to maintain minimum cut panel size.
- Copy of independent test certificates in compliance with full PSA MOB PF2 PS/SPU Medium Grade / Heavy Grade specification to be submitted for approval at tender stage.
- Manufacturer to provide full 25 year system warranty on installed components.
- All none reusable panel off cuts to be returned to the supplier for full recycling.
- Evidence of this process and facility must be provided to the client's representative in order to gain BREEAM credits.
- Raised access floor panels to receive tiles, sheet materials should be screw fixed to the pedestals. 6mm – 18mm plywood (subject to manufacturers recommendations) screw fixed at 300mm centre's will be supplied and installed by others to accept the specified finish and adhesive.
- Raised access floor installed on to Foamglass insulation to have suitable steel spreader plates for each pedestal sourced & selected by appointed specialist sub-contractor.

10. Category: Loose lay.
11. Panel size: 600 x 600 mm.

130B Raised access floor - Comms room

1. Description: Raised 600 x 600mm floor panels for comms room. Finishes as M50/150B - refer to floor finishes drawings (-43 series)
2. Manufacturer: Bathgate Flooring Ltd or acceptable equivalent.
   2.1. Product reference: Permaflor BGM600S or acceptable equivalent.
3. System performance: Medium grade to MOB PF2 PS/SPU
   3.1. Uniformly distributed load (UDL): 8.0kN
   3.2. Point load: 3.0kN
   3.3. Fire performance: Class 'O' spread of flame, BS476-6 & BS476-7.
   3.4. Airborne insulation (Dnfw): 42dB
   3.5. Impact insualtion (Lnfw): 68dB
4. Overall height: Varies -panels to be adjustable l to meet different floor finishes. Raised Floor in Council chamber to enable floor fininsh to meet existing levels.
5. Panels: 600 x 600mm
   5.1. Panel thickness: 31mm
   5.2. Core material: 30mm high density particle board
6. Subfloor preparation: Dustproofing sealers.
7. Support structure type: Access floor pedestals - BH steel pedestals.
8. Barriers in floor void
   8.1. Plenum barriers: As K41/340.
9. System accessories: Allow for load spreading plates over insulation where required.
10. Additional requirements: - To be built strictly following manufacturers certified systems and standard details.
    - Access hatches with required within floor where required to manufacturer's recommendations and as coordinated with MEP consultant during next stage.
    - Oversize panels to be used at perimeters as necessary in order to maintain minimum cut panel size.
    - Copy of independent test certificates in compliance with full PSA MOB PF2 PS/SPU Medium Grade specification to be submitted for approval at tender stage.

- Manufacturer to provide full 25 year system warranty on installed components.
- All none reusable panel off cuts to be returned to the supplier for full recycling.
- Evidence of this process and facility must be provided to the client's representative in order to gain BREEAM credits.
- Raised access floor panels to receive tiles, sheet materials should be screw fixed to the pedestals. 6mm – 18mm plywood (subject to manufacturers recommendations) screw fixed at 300mm centre's will be supplied and installed by others to accept the specified finish and adhesive.
- Raised access floor installed on to Foamglass insulation to have suitable steel spreader plates for each pedestal sourced & selected by appointed specialist sub-contractor.

General/ performance

210 General performance

1. Structural requirement: As per structural engineer information.

219 Installation

1. Completed installation: Clean and stable. Free from bounce and vibration. No lipping between floor panels.

Components

310 Samples

1. General: Submit representative samples of the following: All floor panels .
    1.1. Purpose: Client approval

340 Cavity barriers

1. Type: Mineral wool slabs
2. Performance
    2.1. General: Permanently stable, continuous, and an effective barrier to smoke and flame.
    2.2. Fire resistance: To BS EN 13501-2, EI 30/15
3. Spacing: Maximum dimension in any direction: 20 m.
4. Fixing: Fix securely so that their performance is unlikely to be affected by:
    4.1. Movement of the building due to subsidence, shrinkage or temperature change.
    4.2. Failure of their fixings in a fire.
    4.3. Failure in a fire of any abutting material or construction.
    4.4. Collapse in a fire of any services penetrating them.
5. Floor panels above cavity barriers: To be firmly secured.
6. Gaps between cavity barriers and other elements: Seal with mineral wool or other suitable material.
7. Notification: Give notice when cavity barriers have been installed.

Installation

410 Control samples

1. General: Complete areas of finished work in the following locations: 5sqm of each system. Location to be agreed with client representative .

421 Preparation

1. Areas where flooring is to be installed: Clean before installation and keep clean during installation.
2. Setting out of flooring: Indelibly mark pedestal positions before installing services.
3. Fixtures: Before installing floor, complete fixtures that floor panels are to be cut around, or that are to be bridged by floor supports.
4. Bridging structures - supplementary supports: As manufacturer recommendations.

425 Environmental conditions

1. General: Dry, well ventilated, not subject to rapid variations or extremes of temperature or humidity.
2. RH of air (maximum): 75%.
3. Subfloors
   - 3.1. Moisture content: Test to BS 8201 using an accurately calibrated hygrometer
   - 3.2. RH (maximum): 75%.
   - 3.3. Temperature (minimum): 5°C.

431 Dust-proofing

1. Preparation: Surfaces to be sealed must be clean, dry and free from dust, grease and other contaminants.
2. Extent of sealing: Concrete and masonry surfaces within raised access floor void
3. Sealer: Recommended by raised access floor manufacturer. Compatible with materials used to pack and/ or fix pedestals.
   - 3.1. Colour: Tinted; different tint for each coat.
   - 3.2. First coat: Apply before pedestals are erected.
   - 3.3. Second coat: Apply after completion of services and other associated work.

433 Pedestal adhesive testing

1. Test method: To MOB PF2 PS/SPU
2. Rate of testing
   - 2.1. Pre-installation: 2% of total in each area, selected at random
   - 2.2. During installation: 2%, selected at random
3. Witnessing: Arrange for pre-installation testing to be witnessed by: Contract Administrator.
4. Results of testing during installation: Submit.

435 Cut floor panels

1. Size (minimum): Half standard width x half standard length.
2. Edges
   - 2.1. Burrs and rough edges: Make smooth.
   - 2.2. Sealing: Seal exposed cut edges of floor panels that have moisture sensitive or combustible cores.
     - 2.2.1. Sealer: Self-adhesive aluminium foil tape, to match fire rating of panel, or better.

441 Raised access floor levels

1. Permissible deviations in level
    1.1. Over set length: To meet requirements of floor coverings.
    1.2. Overall: To meet requirements of floor coverings.

445 Perimeters

1. Expansion gaps
    1.1. Size: 10 mm.
    1.2. Location: At abutments.
2. Expansion gap filling
    2.1. Filler type: Resilient closed cell.
    2.2. Filling: Before fixing skirtings and cover strips.

455 Level changes

1. Performance
    1.1. Ramps and steps: Comparable with performance of associated raised access floor.
    1.2. Balustrades: Structural and safety requirements in accordance with BS 6180.

470 Integral finishes electrical resistance testing

1. Location: TBC with client representative.
2. Extent of testing: Test complete raised access floor.
3. Testing agent: Qualified electrician.

Completion

510 Tools

1. Floor panel lifting devices: At completion, supply one set of suitable devices for each type of raised access floor finish installed. Train designated personnel in their use.
2. Pedestal locking: At completion, supply one set of tools for releasing pedestal locking.

515 User instructions

1. User manual contents: Include the following:
    1.1. Correct method for lifting and replacing floor panels and stringers.
    1.2. Limitations on sequence, number and positions of floor panels and stringers that can be removed safely at one time.
    1.3. Permissible loading, with guidance on use of spreader plates when shifting heavy equipment and subsequent maintenance.
    1.4. Methods for installing cabling and ducts to prevent damage to supporting structure.
    1.5. Methods for cleaning floor panels and integral finishes.
    1.6. Method for replacing integral floor panel coverings.
    1.7. Method for adjusting and locking pedestals.
    1.8. Recommended maintenance methods and frequency.
        1.8.1. Minimum maintenance-free life of raised access floor system.

1.8.2. Minimum maintenance-free life of replaceable parts where this differs from that of the whole system.

1.8.3. Minimum period during which replaceable components will be available.

1.9. Installation instructions, including COSHH Assessment.

520 Spares

1. General: At completion, supply the following: 10 floor panels and associated pedestals of each system type.

525 Cleaning

1. Subfloors: At completion, thoroughly clean accessible areas of subfloors and leave free of dust and debris.
2. Raised access floor: Before delivery of items carried by floor, clean thoroughly.

Ω End of Section

L10
Windows/ rooflights/ screens/ louvres

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Evidence of performance

1. Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

115 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied.
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: Forest Stewardship Council (FSC).

120 Pre-construction survey

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. Designated items: All existing elements.

3. Primary support structure: Carry out survey sufficient to verify that required accuracy and security of erection can be achieved.
4. Timing: Before fabrication.

140 Control samples

1. Procedure
   1.1. Finalize component details.
   1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
   1.3. Obtain approval of appearance and quality before proceeding with manufacturer of the remaining quantity.
2. Designated items: All product types.

Products

310 Steel windows generally (CC)

1. Windows profiles with bespoke aluminium cappings to match existing - refer to EOC specification for performance requirements. **Steel window profile as this clause to be compared with L10/331 aluminium option for costing.**
2. Manufacturer: Jansen or acceptable equivalent.
   2.1. Product reference: Janisol Arte 2.0 or acceptable equivalent. Refer to EOC specification for full details.
3. Finish as delivered: Anodised aluminium - silver to match existing. Final finish to be confirmed through sampling.
4. External cover cap: Bespoke anodised aluminium capping to match existing.
5. Glazing details: Refer to EOC specification.
6. Ironmongery/ accessories: Concealed hinges, locking handles and releasable restrictors.
7. Fixing: To manufacturer's recommendations.
8. Other requirements : Existing timber cills to be retained and restored as P20/135.

311 Steel windows to attic & stair cores (CC)

1. Windows profiles to match existing - refer to EOC specification for performance requirements.
2. Manufacturer: Jansen or acceptable equivalent.
   2.1. Product reference: Janisol Arte 2.0 or acceptable equivalent. Refer to EOC specification for full details.
3. Finish as delivered: Metal silver PPC to match existing. Final finish to be confirmed through sampling.
4. Glazing details: Refer to EOC specification.
5. Ironmongery/ accessories: Concealed hinges, locking handles and releasable restrictors.
6. Fixing: To manufacturer's recommendations. Located within GRC fins / reveals to match existing as H92/110A.

330 Aluminium windows (NB)

1. Aluminium windows to new build. Refer to EOC specification for performance requirements.
2. Manufacturer: Schueco UK Ltd or acceptable equivalent.

2.1. Product reference: AWS 75 BS.SI+ Double glazed operable windows or acceptable equivalent. Refer to EOC specification for full details.

3. Finish as delivered: PPC
4. Glazing details: Refer to EOC specification.
5. Ironmongery/ accessories: Avantec concealed hinges, locking handles and releasable restrictors.
6. Allow for birch ply window reveals (incl. head and sill) internally as K13/160A.
7. Fixing: To manufacturer's recommendations.

331 Aluminium windows generally (CC)

1. Windows profiles with bespoke aluminium cappings to match existing - refer to EOC specification for performance requirements. **Aluminium window profile as this clause to be compared with L10/310 steel option for costing.**
2. Manufacturer: Schueco UK Ltd or acceptable equivalent.
   2.1. Product reference: Schueco AWS70.HI or acceptable equivalent. Refer to EOC specification for full details.
3. Finish as delivered: Anodised aluminium - silver to match existing. Final finish to be confirmed through sampling.
4. External cover cap: Bespoke anodised aluminium capping to match existing as per Schueco V8 or V10 bespoke profile.
5. Glazing details: Refer to EOC specification.
6. Ironmongery/ accessories: Concealed hinges, locking handles and releasable restrictors.
7. Fixing: To manufacturer's recommendations.
8. Other requirements: Existing timber cills to be retained and restored as P20/135.

460 Replacement circular rooflights (CC)

1. Manufacturer: VELUX Company Ltd or acceptable equivalent.
   1.1. Product reference: Vario Round Rooflight or acceptable equivalent.
2. Form: Round rooflight for flat roof.
3. Size: 900mm clear internal diameter.
4. Product performance
   4.1. Fire performance
      4.1.1. Fire resistance: External fire classification of BROOF(t4) according to EN 13501-5:2016.
      4.1.2. Reaction to fire: Class B-s1, d0.
   4.2. Thermal performance: 1.7 W/m2K
   4.3. Light transmittance: 80%
   4.4. Solar factor: 61%
   4.5. Resistance to pendulum body impact: 1B1
5. Frame
   5.1. Material: 5 mm thick aluminium.
   5.2. Finish
      5.2.1. Coating: Powder coated.
      5.2.2. Colour: RAL 7043 gloss 30 (Traffic grey).
6. Glazing or infill

6.1. Type: Double glazed (20V LowE DG)

6.2. Construction: Laminated inner pane, UV protecting.

6.3. Coating: LowE as standard.

7. Operation

7.1. Type: Fixed.

8. Fixing: As manufacturer's recommendations.

465 Glazed soffit (internal rooflights)

1. Description: Original glazing has been replaced with solid panels. Replace solid panels with fixed glazed panels.
2. Frame: Powder coated aluminium inset frame as Z31.

2.1. Colour: RAL colour TBC

3. Glazing: Toughened glass as L40.

3.1. Finish: Allow for acid-etched frosted finish.

490 Roof louvred turret

1. Manufacturer: ALPS Ltd or acceptable equivalent.

1.1. Product reference: Universal Louvre Type 2UL/SH Turret or acceptable equivalent.

2. Material: All principal components manufactured from Aluminium alloy type 3005 (Colterra).
3. Blade pitch and angle: 50mm @ 45 degrees
4. Number of louvre banks: 2 (Double bank) – for tangential separation.
5. Special features: Louvre blades shall be roll formed to an aerodynamically efficient profile to achieve “tangential separation” and clipped to concealed structural supporting mullions for efficient water drainage onto the cill.
The system shall achieve a minimum aerodynamic performance coefficient (Cv) of 0.308 (inlet) with bird guard fitted to the rear. The following weather effectiveness shall be achieved when tested in accordance with HEVAC test at a wind speed of 13m/sec.

HEVAC Weathering Classifications:
Class A up to an air intake velocity of 1.0m/sec.
Class B up to an air intake velocity of 2.2m/sec.
Class C up to an air intake velocity of 3.0m/sec.
Class D up to an air intake velocity of 3.5m/sec.

6. Finish: Stoved polyester powder paint (from ALPS standard colour chart). RAL Colour TBC.
7. Coverage: Partial.
8. Accessories: Turret complete with mitred corner blades, single skin aluminium roof & bird guard to rear of louvres.

510 Existing glazed timber screen - Council Chamber

1. Description: Existing glazed timber screen to Council chamber Gallery at 2nd Floor

Refer to:
- Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
- Room data sheets.
- General note 001 above.

2. General repair: As C51.
   - Clean as C51/750.
   - Lightly sand.
3. Finish: As M60/161.
4. Georgian wire glazing: To be cleaned to specialist subcontractor recommendations. Apply coloured film / manifestation as L40/631.
5. Handrail: To be replaced to match original design within corridor to specialist subcontractor design.
6. Other requirements: Certification of fire integrity required by specialist.

511 Existing glazed timber screen - North wing offices

1. Description: Existing glazed timber screen to north wing offices.

   Screens to be moved / modified where required as shown in drawings demolition drawings (series -00) and drawing HCC-HBA-ZZ-ZZ-DR-A-320203.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: As C51.

   Record, carefully dismantle, protect, and remove to store partitions and doors as C51/720.

   Remove later retaining fillets and plasterboard. These partitions were originally partially glazes with corrugated glass.

   - Clean as C51/750.
   - Lightly sand.
3. Finish: As M60/161.
4. Boarding: Replace with clear safety glass.
5. High level louvres: Glazed louvres replaced to match existing.

550A Internal glazed Partitions to office space

1. Description: Glazed system to meeting rooms and study booths in new-built
2. Manufacturer: Optima or acceptable equivalent.
   2.1. Product reference: Revolution 54 DG Partition - Panel Partitionsor acceptable equivalent.
3. Third party accreditation: BM Trada certified.
4. Unit size
   4.1. Thickness: 50 mm face and leaf set.
   4.2. Partition height (nominal): General Office space: 2700mm . Link block: 2500mm
5. Head detail: 90 mm deep (+- 25mm deflection - internal)
6. Floor channel: 25 mm deep
7. Panel partition type: Double glazed glass.
8. Glazing junction: Nebula dry butt-jointed with Shoreditch 2 bar, T-bar system
9. Corners: 2mm VHB Tape
10. Joint treatment

10.1. Type: Aluminium extruded track sections.

10.2. Finish and colour: Powder-coated, RAL 9006 Silver.

11. Glazed panels

11.1. Type: 2 x 12.8 mm acoustic laminate glass

12. Door arrangement

12.1. Type: Frame and door leaf system.

12.2. Door frames: Aluminium.

12.3. Door leafs

12.3.1. Type: EDGE Affinity double-glazed leaf on offset pivots/ hinges.

13. Hardware: Refer to Ironmongery Schedule
14. Configuration: As drawing.
15. Manifestation: As L40/630
16. Locking: Refer to Ironmongery Schedule
17. Solid panels: As shown on drawings - PPC aluminium to match frame.
18. Strength grade: Uncongested office space – 0.36 kN/m line load.
19. Sound insulation: Required min 45 RW . Refer to Acoustic Engineer Report

550B Internal glazed partition to Lobbies (Fire rated)

1. Description: Glazed system to meeting rooms and study booths in new-built
2. Manufacturer: Optima or acceptable equivalent.

2.1. Product reference: Technishield 65 - EI30 Single Glazed double Door System Shoreditch T bar – Non rebated, over panel & side screens (hold open) or acceptable equivalent.

3. Third party accreditation: BM Trada certified.
4. Unit size

4.1. Thickness: 50 mm face and leaf set.

4.2. Partition height (nominal): As per drawings

5. Deflection allowance (maximum)

5.1. Head: Maximum allowable deflection under the line load: L/120 or 25mm

6. Panel partition type: Double glazed glass.
7. Joint treatment

7.1. Type: Aluminium extruded track sections.

7.2. Finish and colour: Powder coat non - standard colour. Powder coat RAL 9006 silver grey (nom. 50 microns, 30% gloss) frame (Refer to Optima for recommendations) Colour TBC

8. Door arrangement

8.1. Type: Frame and door leaf system.

8.2. Door frames: Aluminium.

9. Manifestation: As L40/630.
10. Glazing junction: Nebula dry butt-jointed with Shoreditch 2 bar, T-bar system
11. Corners: 2mm VHB Tape
12. Fire resistance of complete system

12.1. Standard: Fire Resistance of complete system EN 1634-1 and EN 1364-1: EI30 (30 minutes Integrity and Insulation)

13. Accessible design: In accordance with BS 8300-2
14. Glazed panels: Full height Tech 65 SG Glazing (2700mm) with Pyroguard T EI30/18-1 EI30 glass, fully framed.
15. Doorsets: Full height Tech 65 double door SG (2500mm), silicone glazed with: Pyroguard T EI30/18-1 EI30 glass, fully framed.
    15.1. Ironmongery: Refer to ironmongery schedule including power assist as required.

550C Internal glazed to Lobbies

1. Description: Glazed system to meeting rooms and study booths in new-built
2. Manufacturer: Optima or acceptable equivalent
    2.1. Product reference: Optima Edge / Asia Affinity non rebated double doors (corridors & lobby) Optima Shoreditch DDA handle PPC 9006 silver grey or acceptable equivalent
3. Third party accreditation: BM Trada certified.
4. Unit size
    4.1. Thickness: 50 mm face and leaf set.
    4.2. Partition height (nominal): as per drawings
5. Deflection allowance (maximum)
    5.1. Head: Maximum allowable deflection under the line load: L/120 or 25mm
6. Panel partition type: Double glazed glass.
7. Framing, junctions, corners: Aluminium extruded track sections, produced from Circal75R aluminium billet comprising of a minimum of 75% post-consumer recycled content and a maximum carbon footprint of 2.3kgCO2e/kg aluminium.
8. Joint treatment
    8.1. Type: Aluminium extruded track sections.
    8.2. Finish and colour: Powder-coated, RAL 9006 Silver.
9. Glazed panels
    9.1. Type: Glazing - Full height, dry jointed and dry glazed with: 12mm toughened glass
10. Door arrangement
    10.1. Type: Frame and door leaf system.
    10.2. Door frames: Aluminium.
    10.3. Door leafs
        10.3.1. General: Asia Affinity used in existing building where floor springs are not possible. Edge affinity used in New Build.
        10.3.2. Type 1: Edge / Asia Affinity single glazed non rebated double door on hinges w/ Shoreditch handles
        10.3.3. Type 2: Edge / Asia Affinity Symmetry single glazed non rebated double doors on floor spring w/ Shoreditch handles
11. Manifestation: To Architects choice (Part K compliant)
12. Ironmongery: As ironmongery schedule.
13. Sound insulation: Sound insulation to BS EN ISO 10140 - 2 and ISO 717-1: o 33dB (Rw)
14. Framing/Junction: Nebula dry butt-jointed with Shoreditch 2 bar, T-bar system
15. Corners: 2mm VHB Tape
16. Accessible design: In accordance with BS 8300-2

550D Internal glazed to Council Chamber

1. Description: Bespoke glazed system to Council Chamber lobby to be installed between wall and existing door
2. Manufacturer: Optima or acceptable equivalent
   2.1. Product reference: Optima Council Chamber Bespoke Faceted Screen – Revolution 100 system with Shoreditch T-Bar bars (system to support 1.5Kn) or acceptable equivalent.
3. Unit size
   3.1. Head detail: 51mm deep (to include timber packer between ceiling and frame)
   3.2. Floor and wall detail: 25mm deep
   3.3. Partition height (nominal): As per drawings
4. Deflection allowance (maximum)
   4.1. Head: Maximum allowable deflection under the line load: L/120 or 25mm
5. Panel partition type: Single Glazed
6. Framing, junctions, corners: Aluminium extruded track sections, produced from Circal75R aluminium billet comprising of a minimum of 75% post-consumer recycled content and a maximum carbon footprint of 2.3kgCO2e/kg aluminium.
7. Joint treatment
   7.1. Type: Aluminium extruded track sections.
   7.2. Finish and colour: Powder-coated, RAL 9006 Silver.
8. Glazed panels
   8.1. Type: 21.5 mm toughened laminate glass
9. Manifestation: To Architects choice (Part K compliant)
10. Strength grade: Public access space – 1.50 kN/m line load.
11. Sound insulation to BS EN ISO 10140 - 2 and ISO 717-1: Estimate of 40dB (Rw)
12. Framing/Junction: Silicone jointed (with Shoreditch T-bars to cover vertical panel joints)
13. Accessible design: In accordance with BS 8300-2
14. Other requirements: Glazed partition to be installed in existing ceiling and floor **TBC**

551 Existing glazed metal screen - Lobby and large meeting room (former registrar large wedding room)

1. Description: Existing glazed metal screen to lobby and large meeting room (former registrar large wedding room).

   The glazing at this level should provide protection from falling - an assessment is required as to the strength / integrity of the existing partition and allowance made for remedial work to upgrade to regulations.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Aluminium: To be repaired, modified and cleaned to specialist subcontractor recommendations.
3. Glazing: Remove opaque film and clean to specialist subcontractor recommendations. Strengthening film as L40/610.

4. Ironmongery: Repair / replace ironmongery to match original as required to achieve fully functioning door fit for purpose.

552 Existing glazed metal screen - Committee Room

1. Description: Original aluminium glazed partitions to committee rooms at first floor including sliding aluminium frame and single glazed door.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Aluminium: To be repaired and cleaned to specialist subcontractor recommendations.
3. Glazing: Clean to specialist subcontractor recommendations. Strengthening film as L40/610. Apply strengthening film to all glazing below 800mm (the entire pane) and apply manifestation as L30/630.
4. Door mechanisms: Refurbish to specialist subcontractor recommendations.
5. Ironmongery: Repair / replace ironmongery to match original as required to achieve fully functioning door fit for purpose.

553 Existing glazed metal screen - Draught Lobby

1. Description: Existing glazed metal screen to lobby.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Aluminium: To be repaired and cleaned to specialist subcontractor recommendations.
3. Glazing: Clean to specialist subcontractor recommendations.
4. Ironmongery: Repair / replace ironmongery to match original as required.
5. Draught seals: Repair / replace to specialist subcontractor recommendations to achieve fully functioning door fit for purpose.

650 Metal louvres

1. Continuous louvres with internal anodised aluminium grille and external aluminium weather rated louvre.
2. Manufacturer: Colt International Ltd or acceptable equivalent
   2.1. Product reference: Universal Louvre 2UL or acceptbale equivalent.
3. Screen framing: Aluminium.
4. Louvres
   4.1. Type: As screen framing.
   4.2. Operation: Double bank deep section, front louvres at 100 mm pitch, rear louvres at 50 mm pitch.
5. Blanking panels: None.
6. System accessories: Concealed door as L20/480B where required.
7. Guards: Stainless steel insect mesh.
8. Dimensions: As shown on drawings.
9. Configuration: As shown on drawings.

10. Finish: Dark grey PPC (colour TBC through sampling)
11. Performance: To MEP free opening area specification. Structural support requirements as per SE specification.

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry floored and covered storage.
2. Stored components: Stack vertical or near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Prime or seal as specified before fixing components.

740 Corrosion protection

1. Surfaces to be protected: Surfaces of aluminium components, which will come into contact with mortar, concrete or plaster, treated timber or ungalvanised iron or steel.
2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic-impregnated tape.
    2.1. Timing of application: Before fixing components.

750 Building in

1. General: Not permitted unless indicated on drawings.
    1.1. Brace and protect components to prevent distortion and damage during construction of adjacent structure.

760 Replacement window installation

1. Standard: In accordance with BS 8213-4.

765 Window installation generally

1. Installation: Into prepared openings.
2. Gap between frame edge and surrounding construction
    2.1. Minimum: To manufacturer's recommendations.
    2.2. Maximum: To manufacturer's recommendations.
3. Distortion: Install windows without twist or diagonal racking.

770 Damp-proof courses in prepared openings

1. Location: Ensure correct positioning in relation to window frames. Do not displace during fixing operations.

780 Fixing of wood frames

1. Standard: As section Z20.
2. Fasteners: As manufacturer's recommendations.

2.1. Spacing: When not pre-drilled or specified otherwise, position fasteners not more than 150 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

781 Fixing of steel frames

1. Standard: As section Z20.
2. Fasteners: As manufacturer's recommendations.
   2.1. Spacing: When not pre-drilled or specified otherwise, position fasteners not less than 50 mm and not more than 190 mm from ends of each jamb, adjacent to each hanging point of opening lights and at maximum 900 mm centres.

782 Fixing of aluminium frames

1. Standard: As section Z20.
2. Fasteners: As manufacturer's recommendations.
   2.1. Spacing: When not pre-drilled or specified otherwise, position fasteners not more than 250 mm from ends of each jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

790 Fire-resisting frames

1. Gap between back of frame and reveal: Completely fill with product as per manufacturer's recommendations to maintain required fire rating.

800 Backfilling of steel-frame sections

1. Windows fixed direct into openings: After fixing, fill back of steel frame with waterproof cement fillet.

810 Sealant joints

1. Sealant
   1.1. Manufacturer: Submit proposals as recommended with supplier of window system.
      1.1.1. Product reference: Submit proposals as recommended with supplier of window system.
   1.2. Colour: To compliment / match window frame colour - samples to be provided for review.
   1.3. Application: As section Z22 to prepared joints. Finish triangular fillets to a flat or slightly convex profile.

820 Ironmongery

1. Fixing: In accordance with any third-party certification conditions applicable. Assemble and fix carefully and accurately using fasteners with matching finish supplied by ironmongery manufacturer. Do not damage ironmongery and adjacent surfaces.
2. Checking/ adjusting/ lubricating: Carry out at Completion and ensure correct functioning.

Ω End of Section

L20
Doors/ shutters/ hatches

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Evidence of performance

1. Certification: Provide independently certified evidence that all incorporated components comply with specified performance requirements.

112 Timber procurement

1. Timber (including timber for wood-based products): Obtain from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the 'Convention on International Trade in Endangered Species of wild fauna and flora (CITES)'.
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied, or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of custody certification scheme: Forest Stewardship Council (FSC).

115 Fire-resisting and smoke control pedestrian doors/ door assemblies/ doorsets

1. UKCA/ UKNI/ CE marked fire-resisting and smoke control pedestrian doorsets: To BS EN 16034 and in conjunction with BS EN 13241, BS EN 14351-1 and BS EN 14351-2.
2. Door products: As defined in BS EN 12519.

3. Evidence of fire performance: Provide certified evidence, in the form of a product conformity certificate, directly relevant fire test report or engineering assessment, that each door/ door assembly/ doorset supplied will comply with the specified requirements for fire-resisting and/ or smoke control if tested to BS 476-22, BS EN 1634-1, BS EN 1634-3 or is UKCA/ UKNI/ CE marked to BS EN 16034. Specified values should not be a combination of both standards. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
4. Components, assemblies or sets will be marked to the relevant UKCA/ UKNI/ CE marking European product standard (hEN), national product standard and/ or third-party certification rating.

120 Non-fire-resisting pedestrian doors/ door assemblies/ doorsets

1. Provide certified evidence, in the form of a product conformity certificate or engineering assessment, that each pedestrian door/ doorset/ assembly supplied will comply with the specified requirements to BS EN 14351-1. Such certification must cover door and frame materials, glass and glazing materials and their installation, essential and ancillary ironmongery, hinges and seals.
2. Components and assemblies will be marked to the relevant UKCA/ UKNI/ CEI marking European product standard (hEN), national product standard and/ or third-party certification rating.

150 Site dimensions

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.
2. Designated items: All existing areas.

170 Control samples

1. Procedure
   1.1. Finalize component details.
   1.2. Fabricate one of each of the following designated items as part of the quantity required for the project.
   1.3. Obtain approval of appearance and quality before proceeding with manufacture of the remaining quantity.
2. Designated items: All product types.

Products

410A Timber doorsets - General Laminate

1. Description: Timber doorset with laminate finish with vision panels and overhead glazed panels where required.

   Door types: As indicated in door type drawings and schedule.
2. Drawing reference(s): Refer to plans, door elevations and door schedule
3. Manufacturer: Shadbolt or acceptable equivalent
   3.1. Product reference: Fastrack range or acceptable equivalent
4. Performance
   4.1. Fire performance: Upto FD60S, refer to Door Schedule.
   4.2. Smoke control: Smoke seals as required to comply with Equality Act 2010.
   4.3. Acoustic performance: Upto 34dB, refer to Door Schedule.

4.4. Mechanical durability: Successfully tested to BS EN 1992 Class 4 severe duty

4.5. Security performance: As per door schedule.

5. Door type / arrangement: As shown in door type drawings.
6. Door leaf
   6.1. Core: As manufacturer's standard subject to performance requirements.
   6.2. Thickness: As manufacturer's standard to meet fire & acoustic rating
   6.3. Facings: Formica Door Range laminate. Overlipped with 2mm bevelled edges. Laminate colour TBC - allow for 3 colours.
   6.4. Lippings: - Concealed timber hardwood lipping to all four edges.
   - Minimum standard finished 8mm square with 2mm aris.
   6.5. Finish as delivered: Facings left clean. Clear lacquer to all lippings.
7. Frame and architraves
   7.1. Type: According to supplier information to meet acoustic and fire requirements.
   7.2. Wood species: Sustainable softwood/hardwood to suit fire performance. (FSC compliant)
   7.3. Finish as delivered: Prepared and primed. Architrave and frame to be painted in matte to match door leaf facings.
8. Preservative treatment: As required
9. Glazing/ Infill details: Vision panel / overhead panel as required (refer to 32 series drawings) and all to meet fire and acoustic performance requirements.
   9.1. Manifestation: Bespoke graphic to be agreed with client representative as L40/630. Required to comply with Building Regulations.
   9.2. Beading: European white oak from FSC source flush bead, max. 10mm to all around vision panel. Lipping to be flush with front face of door on both sides.
   9.3. Glass: Clear to meet fire and acoustic requirements.
   9.4. Size and aperture(s): As per door elevations
10. Ironmongery: As ironmongery schedule
    10.1. Hinges: Concealed.
    10.2. Door Closers: As ironmongery schedule. Concealed closers, released in the event of fire.
11. Perimeter seals: Required as recommended by door manufacturer to meet fire and acoustic performance.
    Fire seals: Standard type for this doorset, with intumescence seals rebated into frame.
    Acoustic seals, if required: Frame head and jambs standard type for this doorset. Bottom edge of leaf fitted with concealed drop down seal where required.
12. Other requirements: Access control, hold opens and power assist as per M&E Engineer's drawings and specification.
13. Fixing: Factory drilled frames with matching pellets.

    Fix door(s) and timber frame(s) in accordance with manufacturer's Installation guide and BS 8214: 2008 (Code of practice for fire door assemblies).

410B Timber doorsets - General Painted

1. Description: Timber doorset with laminate finish with vision panels and overhead glazed panels where required.

   Door types: As indicated in door type drawings and schedule.
2. Drawing reference(s): Refer to plans, door elevations and door schedule

3. Manufacturer: Shadbolt or acceptable equivalent
   3.1. Product reference: Fastrack range or acceptable equivalent
4. Performance
   4.1. Fire performance: Upto FD60S, refer to Door Schedule.
   4.2. Smoke control: Smoke seals as required to comply with Equality Act 2010.
   4.3. Acoustic performance: Upto 34dB, refer to Door Schedule.
   4.4. Mechanical durability: Successfully tested to BS EN 1992 Class 4 severe duty
   4.5. Security performance: As per door schedule
5. Door type / arrangement: As shown in door type drawings.
6. Door leaf
   6.1. Core: As manufacturer's standard subject to performance requirements.
   6.2. Thickness: As manufacturer's standard to meet fire & acoustic rating
   6.3. Facings: Prepared and primed for paint finish as M60/150.
   6.4. Lippings: - Concealed timber hardwood lipping to all four edges. Clear lacquer to all lippings.
   - Minimum standard finished 8mm square with 2mm aris.
7. Frame and architraves
   7.1. Type: According to supplier information to meet acoustic and fire requirements.
   7.2. Wood species: Sustainable softwood/hardwood to suit fire performance. (FSC compliant)
   7.3. Finish as delivered: Prepared and primed. Architrave and frame to be painted in matte to match door leaf facings.
8. Preservative treatment: As required
9. Glazing/ Infill details: Vision panel / overhead panel as required (refer to 32 series drawings) and all to meet fire and acoustic performance requirements.
   9.1. Manifestation: Bespoke graphic to be agreed with client representative as L40/630. Required to comply with Building Regulations.
   9.2. Beading: European white oak from FSC source flush bead, max. 10mm to all around vision panel. Lipping to be flush with front face of door on both sides.
   9.3. Glass: Clear to meet fire and acoustic requirements.
   9.4. Size and aperture(s): As per door elevations
10. Ironmongery: As ironmongery schedule
    10.1. Hinges: Concealed.
    10.2. Door Closers: As ironmongery schedule. Concealed closers, released in the event of fire.
11. Perimeter seals: Required as recommended by door manufacturer to meet fire and acoustic performance.
    Fire seals: Standard type for this doorset, with intumescence seals rebated into frame.
    Acoustic seals, if required: Frame head and jambs standard type for this doorset. Bottom edge of leaf fitted with concealed drop down seal where required.
12. Other requirements: Access control, hold opens and power assist as per M&E Engineer's drawings and specification.
13. Fixing: Factory drilled frames with matching pellets.

    Fix door(s) and timber frame(s) in accordance with manufacturer's Installation guide and BS 8214: 2008 (Code of practice for fire door assemblies).

410C Timber doorset to refuse store - Laminate (A)

1. Description: Thermally broken Timber doorset to Refuse store with laminate finish

   Door type ID-N-020
2. Drawing reference(s): Refer to plans, door elevations and door schedule
3. Manufacturer: Shadbolt or acceptable equivalent
   3.1. Product reference: Flamebreak range or acceptable equivalent
4. Performance
   4.1. Fire performance: Up to FD30S
   4.2. Smoke control: Smoke seals as required to comply with Equality Act 2010.
   4.3. Mechanical durability: Successfully tested to BS EN 1992 Class 4 severe duty
   4.4. Security performance: As per door schedule.
   4.5. Thermal performance: min 1.2 W/m2K
5. Door type / arrangement: As shown in door type drawings.
6. Door leaf
   6.1. Core: As manufacturer's standard subject to performance requirements.
   6.2. Thickness: As manufacturer's standard to meet fire & acoustic rating
   6.3. Facings: Formica Door Range laminate. Overlipped with 2mm bevelled edges. Laminate colour TBC
   6.4. Lippings: - Concealed timber hardwood lipping to all four edges.
   - Minimum standard finished 8mm square with 2mm aris.
   6.5. Finish as delivered: Facings left clean. Clear lacquer to all lippings.
7. Frame and architraves
   7.1. Type: According to supplier information to meet acoustic and fire requirements.
   7.2. Wood species: Sustainable softwood/hardwood to suit fire performance. (FSC compliant)
   7.3. Finish as delivered: Prepared and primed. Architrave and frame to be painted in matte to match door leaf facings.
8. Preservative treatment: As required
9. Ironmongery: As ironmongery schedule
   9.1. Hinges: Concealed.
   9.2. Door Closers: As ironmongery schedule. Concealed closers, released in the event of fire.
10. Perimeter seals: Required as recommended by door manufacturer to meet fire and acoustic performance.
    Fire seals: Standard type for this doorset, with intumescence seals rebated into frame.
    Acoustic seals, if required: Frame head and jambs standard type for this doorset. Bottom edge of leaf fitted with concealed drop down seal where required.
11. Other requirements: Access control, hold opens and power assist as per M&E Engineer's drawings and specification.
12. Fixing: Factory drilled frames with matching pellets.

    Fix door(s) and timber frame(s) in accordance with manufacturer's Installation guide and BS 8214: 2008 (Code of practice for fire door assemblies).

411 Timber doorsets - Bespoke Pocket Doors

1. Description: Bespoke pocket doors with timber veneer and concealed frame to match K13/160A.

   Door types: ID-N-011.
2. Drawing reference(s): Refer to plans, door elevations and door schedule
3. Manufacturer: Shadbolt or acceptable equivalent
   3.1. Product reference: 30 Shad Core or acceptable equivalent
4. Performance
   4.1. Fire performance: FD30S, refer to Door Schedule.
   4.2. Smoke control: Smoke seals as required to comply with Equality Act 2010.
   4.3. Acoustic performance: Not required
   4.4. Mechanical durability: Successfully tested to BS EN 1992 Class 4 severe duty
   4.5. Security performance: As per door schedule
5. Door type / arrangement: As shown in door type drawings.
6. Door leaf
   6.1. Core: As manufacturer's standard subject to performance requirements.
   6.2. Thickness: As manufacturer's standard to meet fire & acoustic rating
   6.3. Facings: Timber veneer to match K13/160C.
   6.4. Lippings: - Concealed timber hardwood lipping to all four edges.
   - Minimum standard finished 8mm square with 2mm aris.
   6.5. Finish as delivered: Facings left clean. Clear lacquer to all lippings.
7. Frame and architraves
   7.1. Type: According to supplier information to meet acoustic and fire requirements.
   7.2. Wood species: Sustainable softwood/hardwood to suit fire performance. (FSC compliant)
   7.3. Finish as delivered: Prepared and primed. Architrave and frame to be painted as M60/150.
8. Preservative treatment: As required
9. Ironmongery: As ironmongery schedule
   9.1. Hinges: Concealed.
   9.2. Door Closers: As ironmongery schedule. Concealed closers, released in the event of fire.
10. Perimeter seals: Required as recommended by door manufacturer to meet fire and acoustic performance.
    Fire seals: Standard type for this doorset, with intumescence seals rebated into frame.
    Acoustic seals, if required: Frame head and jambs standard type for this doorset. Bottom edge of leaf fitted with concealed drop down seal where required.
11. Other requirements: Access control, hold opens and power assist as per M&E Engineer's drawings and specification.
12. Fixing: Factory drilled frames with matching pellets.

    Fix door(s) and timber frame(s) in accordance with manufacturer's Installation guide and BS 8214: 2008 (Code of practice for fire door assemblies).

412 Timber doorsets - Integrated in Panelling

1. Description: Doorsets integrated in panelling to elevator lobby, welcome space and comms room. Timber veneer and concealed frame to match location.

Door types: ID-N-001, ID-N-013, ID-N-015, ID-N-008, ID-N-012

2. Drawing reference(s): Refer to plans, door elevations and door schedule
3. Manufacturer: Shadbolt or acceptable equivalent
   3.1. Product reference: 30 Shad Core or acceptable equivalent
4. Performance
   4.1. Fire performance: FD30S**,** refer to Door Schedule.
   4.2. Smoke control: Smoke seals as required to comply with Equality Act 2010
   4.3. Acoustic performance: Upto 34dB, refer to Door Schedule.
   4.4. Mechanical durability: Successfully tested to BS EN 1992 Class 4 severe duty
   4.5. Security performance: As per door schedule
5. Door type / arrangement: As shown in door type drawings.
6. Door leaf
   6.1. Core: As manufacturer's standard subject to performance requirements.
   6.2. Thickness: As manufacturer's standard to meet fire & acoustic rating
   6.3. Facings: Timber veneer to match location.
   Lobby: K13/160C
   Welcome space: K13/170A
   Comms room: K13/160B.
   6.4. Lippings: - Concealed timber hardwood lipping to all four edges.
   - Minimum standard finished 8mm square with 2mm aris.
   6.5. Finish as delivered: Facings left clean. Clear lacquer to timber lippings.
7. Frame and architraves
   7.1. Type: According to supplier information to meet acoustic and fire requirements.
   7.2. Wood species: Sustainable softwood/hardwood to suit fire performance. (FSC compliant)
   7.3. Finish as delivered: Prepared and primed. Architrave and frame to be painted as M60/150.
8. Preservative treatment: As required
9. Ironmongery: As ironmongery schedule
   9.1. Hinges: Concealed.
   9.2. Door Closers: As ironmongery schedule. Concealed closers, released in the event of fire.
10. Perimeter seals: Required as recommended by door manufacturer to meet fire and acoustic performance.
    Fire seals: Standard type for this doorset, with intumescence seals rebated into frame.
    Acoustic seals, if required: Frame head and jambs standard type for this doorset. Bottom edge of leaf fitted with concealed drop down seal where required.
11. Other requirements: Access control, hold opens and power assist as per M&E Engineer's drawings and specification.
12. Fixing: Factory drilled frames with matching pellets.

    Fix door(s) and timber frame(s) in accordance with manufacturer's Installation guide and BS 8214: 2008 (Code of practice for fire door assemblies).

420A Existing internal Wood doors

1. Description: Refurbishment to existing internal timber finished doors. Refer to series 32, door schedule and ironmongery schedule.

2. Repair Works: Repair and restoration as C51.
   Prepare door leaf, door frame and architraves.
   - Splice in, as required , new timber section to replace damaged and rotted timber:
     - Spliced sections shall not be visible once redecoration is complete
     - Material shall be of matching quality and profile
   - Iron down lifting veneer.- Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
3. Finish: As M60/161.
4. Ironmongery: New ironmongery as per Ironmongery schedule

420B Existing Fire rated internal timber doors

1. Description: Refurbishment to existing internal timber Door type ID-E-007 to required Fire rated. Refer to series 32, door schedule and ironmongery schedule.
2. Repair Works: Repair and restoration as C51 and Luard Conservation recommendations.
   Door to be upgraded to Fire rating required.
   Timber Veneer to be replaced by new Elm finish to match adjacent heritage timber wall as per K13/121.
3. Finish: As M60/161.
4. Ironmongery: New ironmongery as per Ironmongery schedule
5. Fire performance
   5.1. Fire resistance: FD30s
   5.2. Smoke leakage: Intumescent seals to be fitted to doors

480A External doorsets - Aluminium solid panel (NB and CC)

1. Description: Flush solid faced aluminium thermally broken exterior doors and frame with recessed opening.
2. Manufacturer: Schueco UK Ltd or acceptable equivalent
   2.1. Product reference: AD UP 75/75BL or acceptable equivalent.
3. Performance: Refer to EOC specification for performance specification.
4. Finish: Anodised finish for CC and PPC for NB (colour tbc to match window frames) with insulated spandrel panel and concealed frames.
5. Configuration: As shown in design drawings and door schedule.
6. Other requirements: Doors to be lockable, complete with ironmongery accessories and weatherstripping. Allow for aluminium anti finger trap / threshold / drainage channel (refer to drainage drawings) / closer/ cill / satin stainless steel ironmongery. Threshold to be DDA compliant. Contractor to submit proposals.

480B External doorsets - Aluminium louvred (NB)

1. Description: Frameless aluminium louvred doors within louvres as L10/650.
2. Manufacturer: Colt International Ltd or acceptable equivalent
   2.1. Product reference: 2UL Concealed Louvred Doors
3. Performance: Refer to EOC for performance specification.
4. Configuration: As shown in design drawings and door schedule.

5. Louvre type: To match louvres in L10/650.
6. Guards: Stainless steel insect mesh
7. Finish: Dark grey PPC (colour TBC through sampling)
8. Performance: To MEP free opening area specification. Structural support requirements as per SE specification.
9. Other requirements: Doors to be lockable, complete with ironmongery accessories and weatherstripping. Allow for aluminium anti finger trap / threshold / drainage channel / closer/ cill / power assisted door operator & satin stainless steel ironmongery.

480C External doorsets - Aluminium frame glazed (NB)

1. Description: Aluminium thermally broken glass doors and frame within recessed opening.
2. Manufacturer: Schueco UK Ltd or acceptable equivalent
   2.1. Product reference: AD UP 75/75BL or acceptable equivalent.
3. Performance: Refer to EOC for performance specification.
4. Finish: PPC frame finish (colour tbc to match windows) with concealed frames.
5. Glazing: Insulated clear low iron glass, toughened and laminated as part of facade system. Refer to EOC for full specification.
6. Manifestation: As H11/738.
7. Configuration: As shown in design drawings and door schedule.
8. Other requirements: Doors to be lockable, complete with ironmongery accessories and weatherstripping. Allow for aluminium anti finger trap / threshold / closer / drainage channel / cill / power assisted door operator / manifestation & satin stainless steel ironmongery.

480D External doorsets - Aluminium frame glazed (CC)

1. Description: Aluminium thermally broken glass doors and frame within recessed opening.
2. Manufacturer: Schueco UK Ltd or acceptable equivalent
   2.1. Product reference: AD UP 75/75BL with V8 or V10 bespoke profile or acceptable equivalent.
3. Performance: Refer to EOC for performance specification.
4. Finish: PPC frame finish (colour tbc to match windows) with concealed frames.
5. Glazing: Insulated clear low iron glass, toughened and laminated as part of facade system. Refer to EOC for full specification.
6. Manifestation: As H11/738.
7. Configuration: As shown in design drawings and door schedule.
8. Other requirements: Doors to be lockable, complete with ironmongery accessories and weatherstripping. Allow for aluminium anti finger trap / threshold / closer / drainage channel / cill / power assisted door operator / manifestation & satin stainless steel ironmongery.

480E External doorsets - GRC (CC)

1. Description: External uninsulated GRC faced hinged doorset. Refer to drawing -210361 for design intent.
2. Manufacturer: Pura Facades or acceptable equivalent
3. Performance: Refer to EOC for performance specification.
4. Finish: To match rainscreen as H92/110A.

5. Support: GRC panel on proprietary support frame with no visible fixings (fixings austenitic stainless steel).
6. Door frame: Concealed
7. Configuration: As shown in design drawings and door schedule.
8. Other requirements: Doors to be lockable, complete with ironmongery accessories and weatherstripping. Allow for aluminium anti finger trap / threshold / closer / drainage channel / cill / power assisted door operator & satin stainless steel ironmongery.

481 Internal doorsets - Risers

1. Description: Pre-hung concealed frame riser doorset. Steel frame and door leaf with an integral concealed quick-release pivot hinge. Integral factory applied fire stopping between frame and shaft wall.
2. Manufacturer: SELO or acceptable equivalent.
    2.1. Product reference: Quadra+ Concealed Riser Doors or acceptable equivalent.
3. Configuration: Varies up to 6 leaf - as shown in door type drawings.
4. Frame type options: Concealed – as standard. 50mm flange to accommodate aperture lining.
5. Threshold options: 4 Sided with QT1 – To Sit onto Finish Floor
6. Doorset size: As shown in door type drawings.
7. Performance
    7.1. Fire performance
        7.1.1.Fire integrity: Upto FD60S to BS EN 1634-1.
    7.2. Acoustic performance: Minimum 30 dB.
8. Frame
    8.1. Material: Steel.
    8.2. Perimeter seals or inserts: Smoke seal.
    8.3. Finish
        8.3.1.Coating: Powder coating to BS EN 12206-1.
        8.3.2.Texture: Textured.
        8.3.3.Colour: Standard RAL.
9. Door leaf
    9.1. Thickness: 44 mm.
    9.2. Core: Insulated.
    9.3. Material: Steel.
    9.4. Perimeter seals: Smoke and acoustic seal.
    9.5. Finish: Textured powdercoated to RAL colour – for overpainting with water-based emulsion as M60.
    9.6. Door accessories: Leading edge FDKL self-adhesive sign.
10. Locking: Refer to ironmongery schedule - eurocylinder provision.
11. Other requirements: Nulfire wall liner system to be used when used within wall lining systems to maintain fire line.

500 External doorsets - Plantscreen (NB)

1. Description: Aluminium doors within plantscreen as H92/112.
2. Manufacturer: Just Facades or acceptable equivalent

3. Performance: Refer to EOC for performance specification.
4. Material: Aluminium panels to match plantscreen geometry and appearance.
5. Support: Aluminium panel on proprietary support frame with no visible fixings (fixings austenitic stainless steel).
6. Perforation: Standard perforation pattern - pattern TBC. Perforation backed with solid panel to enclosed plant area to west of plant room.
7. Finish: Powder coated as Z31. Colour to match GRC / plantscreen (to be confirmed through sampling)
8. Door frame: Concealed
9. Configuration: As shown in design drawings and door schedule.
10. Other requirements: Doors to be lockable, complete with satin stainless steel ironmongery accessories and weatherstripping.

545 Sliding stacking panel partitions

1. Manufacturer: London Wall Design Ltd or acceptable equivalent.
    1.1. Product reference: Type 100 or acceptable equivalent.
2. Acoustic Performance: Required Acoustic on-site performance (DnTw) to be minimum 40 db Rw 50dB (laboratory test) in accordance with DIN EN 20 140-3.
3. Operation: Semi electric operation
4. Dimensions (nominal)
    4.1. Overall: 12436x2700mm opening
    4.2. Panel (average)
        4.2.1.Width: 1082mm wide TE, 1232mm wide NE, 1240 mm wide SE
        4.2.2.Height: To suit opening.
        4.2.3.Thickness: 105mm
5. Stack size (approx.): 1265mm wide x 1150 mm deep
6. Total weight: Approx. 2050kg
7. Track system
    7.1. Wall jamb and abutments: Finished to match panels as standard.
8. Panels
    8.1. Construction: Internal bracket frame with double skin cladding of 19 mm thick, three layer, high density chipboard.
    8.2. Finish as delivered: Laminate (final colour TBC from standard range).
9. Panel Type: 1 Telescopic panel TE, 8 standard panels NE, 1 inset pass door SE, (2 wall jambs included).
10. Structure and suspension: Concrete slab void 810mm max.
11. Track profile: Aluminium
12. Edge profile: Concealed satin anodised aluminium
13. Method: Top hung, no floor track required
14. System: Type ‘E’ single point suspension
15. Track trim: Semi-recessed Type ‘B’
16. Fire performance: To meet surface spread of flame requirements as Approved Document B.
17. Partition assembly: Refer to manufacturer drawing (SL – 101, SL – 102 and SL – 103), for disposition of specified elements.

18. Panel vertical edge type: Concealed.
19. Bunching: Single stack.
20. Track finish: Powder coated white.
21. Other requirements: Bespoke unistrut structural support design and coordination with MEP services required at next stage to allow for space for services to pass through.

546 Existing folding partition / door

1. Description: Repair and restore original timber folding partition to large committee room.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. General repair: Specialist subcontractor to investigate to identify issues. If salvageable repair veneers, overhaul and refurbish the
   running mechanism and rails.

   Timber repair as C51.
   - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
3. Finish : As M60/161.
4. Ironmongery: Repair / replace ironmongery to match original as required to achieve fully functioning operation.
5. Mechanism: Re-install the folding doors, replace wheels and tracks as required. Refurbish to specialist subcontractor recommendations.

610 A Vertical active fire curtain barriers

1. Manufacturer: Coopers Fire Ltdor acceptable equivalent.
   1.1. Product reference: FireMaster® A1 - Active Fire Curtainor acceptable equivalent.
2. Standards: BS 8524-1
   BS EN 1634-1
   BS EN 1634-3
   BS 5234-2
   BS EN 14600
   BS EN 13501-2
   BS EN ISO 1716
   BS EN 13501-1+A1
   BS EN ISO 14184-1
   BS EN 12101-10
3. Size: As shown on drawings.
4. Performance
   4.1. Fire resistance: Minimum EW30 fire rated and smoke sealed as shown on fire plans.
5. Barrier units: Flexible metallic fabric.
6. Activation: Commences movement upon initiation of alarm or power or system failure.
7. Classification: Single: E180 EW30 C0 Grade 1; overlapped: E120 EW30 C0 Grade 1.

8. Frame colour/ finish: Polyester powder coated finish where visible - refer to design drawings.
9. Smoke seals: Required.
10. Air permeability:: <3 $m^3/h/m$ at ambient temperature at 25 Pa (0.1 in water).
11. Other requirements: - Manual override button
    - Beam protection and obstruction warning - will sound in the event of an obstruction being placed at the barrier drop line.
    - Emergency retract - touch-button retract facility for multi-escape.
    - Audio Visual alert system - light warning system with sounder
    - Fire curtain must Fail-safe closed

610B Fire curtain

1. Manufacturer: Coopers or acceptable equivalent.
    1.1. Product reference: Fire Master Plus^2 or acceptable equivalent.
2. Standards: BS 8524-1
    BS EN 1634-1
    BS EN 1634-3
    BS 5234-2
    BS EN 14600
    BS EN 13501-2
    BS EN 13501-1+A1
    BS EN ISO 14184-1
    BS EN 12101 10
3. Fire resistance: Minimum EW60 fire rated and smoke sealed as shown on fire plans.
4. Classification: E180 EW90 C0 (single)
5. Arrangement: Vertical, fitted into reveal. Refer to design drawings for details.
6. Shutter/ curtain material: Fire resistant fabric - to specialist manufacturer's details and specification.
7. Frame/ Guides: Recessed fixed guides
    7.1. Finish as delivered: Polyester powder coated finish where visible - refer to design drawings.
8. Head box
    8.1. Finish as delivered: Polyester powder coated finish where visible - refer to design drawings.
9. Operation: Commences movement upon initiation of alarm or power or system failure.
10. Other requirements: - Manual override button
    - Beam protection and obstruction warning - will sound in the event of an obstruction being placed at the barrier drop line.
    - Emergency retract - touch-button retract facility for multi-escape.
    - Audio Visual alert system - light warning system with sounder
    - Fire curtain must Fail-safe closed

630A Roof access hatch (CC)

1. Description: Roof access hatch for vertical access ladder.
2. Manufacturer: Bilco UK or acceptable equivalent.
    2.1. Product reference: Bilco Roof Hatches - Ladder Access E-50TB - Roof Access Hatch or acceptable equivalent.
3. Format: External.
4. Door
    4.1. Orientation: Horizontal.

4.2. Material: 2.3 mm aluminium, 75 mm polyisocyanurate insulation.

5. Operation
   5.1. Mode: Manual. Compression springs located within inner and outer tube.
6. Dimensions: 1195 x 1195mm (overall) / 915 x 915 mm (frame opening)
7. Performance:

U-value	0.278 W/m²K (homogeneous)
	1.39 W/m²K (Developed Area)
BS EN 12207:2000	Air Permeability 4.83 m³/hour/m² at 600Pa
BS EN 12208:2000	Water Tightness Class 9A
BS EN 12210:2000	Wind Resistance Class E2400
BS EN 1991-1	Snow Load 1200Pa for 1 hour
BS 8200	Impact Resistance Pass
BS EN ISO 140	Acoustic 25dB
BS EN 1627-1630	Security Pass
Wind Speed	With Open Cover 30 m/s

630B Roof access hatch (NB)

1. Description: Roof access hatch for companionway ladder.
2. Manufacturer: Bilco UK or acceptable equivalent.
   2.1. Product reference: Bilco Roof Hatches - Companionway Access CS-50TB or acceptable equivalent.
3. Format: External.
4. Door
   4.1. Orientation: Horizontal.
   4.2. Material: 2.3 mm aluminium; 75 mm polyisocyanurate insulation.
5. Operation
   5.1. Mode: Manual. Compression springs located within inner and outer tube.
6. Insulation: 75 mm polyisocyanurate insulation to curb.
7. Dimensions: 1780 x 1040 mm (overall) / 1500 x 760mm (frame opening)
8. Performance:

U-value (homogeneous)	0.278 W/m²K
U-value (developed area)	1.39 W/m²K (Developed Area)
BS EN 12207:2000	Air Permeability 4.83 m³/hour/m² at 600Pa
BS EN 12208:2000	Water Tightness Class 9A
BS EN 12210:2000	Wind Resistance Class E2400
BS EN 1991-1	Snow Load 1200Pa for 1 hour
BS 8200	Impact Resistance Pass
BS EN ISO 140	Acoustic 25dB
BS EN 1627-1630	Security Pass
Wind Speed	With Open Cover 30 m/s

9. Other requirements: Installation as manufacturer's recommendations.

640A Dry riser inlet cabinet - Stainless steel

1. Stainless Steel 2 way dry riser inlet cabinet with all statutory signage

2. Manufacturer: UK Dry Risers Ltd or acceptable equivalent
3. Standard : BS 5041:Part 5 and to meet London Fire Brigade requirements.
4. Performance: Refer to EOC specification.
5. Finish: Satin stainless steel.
6. Other requirements : Frameless within adjacent cladding with no visible fixings. Allow for engraved labelling subject to approval from LFB.

640B Dry riser inlet cabinet - GRC

1. Bespoke GRC Faced 2 way dry riser inlet cabinet with concealed frame and all statutory signage.
2. Manufactuer: UK Dry Risers Ltd or acceptable equivalent
3. Standard: BS 5041:Part 5 and to meet London Fire Brigade requirements.
4. Performance: Refer to EOC specification.
5. Finish: To match adjacent GRC.
6. Other requirements: Frameless within adjacent cladding with no visible fixings. Allow for engraved labelling subject to approval from LFB.

Execution

710 Protection of components

1. General: Do not deliver to site components that cannot be installed immediately or placed in clean, dry, floored and covered storage.
2. Stored components: Stacked on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

730 Priming/ sealing

1. Wood surfaces inaccessible after installation: Primed or sealed as specified before fixing components.

740 Corrosion protection

1. Surfaces to be protected: Surfaces of aluminium components, which will come into contact with mortar, concrete or plaster, treated timber or ungalvanised iron or steel.
2. Protective coating: Two coats of bitumen solution to BS 6949 or an approved mastic-impregnated tape.
    2.1. Timing of application: Before fixing components.

750 Fixing doorsets

1. Timing: After associated rooms have been made weathertight and the work of wet trades is finished and dried out.

760 Building in

1. General: Not permitted unless indicated on drawings.

770 Damp-proof courses associated with built-in wood frames

1. Method of fixing: To backs of frames using galvanized clout nails.

780 Damp-proof courses in prepared openings

1. Location: Correctly positioned in relation to door frames. Do not displace during fixing operations.

790 Fixing of wood frames

1. Spacing of fixings (frames not predrilled): Maximum 150 mm from ends of each jamb and at 600 mm maximum centres.

800 Fixing of loose thresholds

1. Spacing of fixings: Maximum 150 mm from each end and at 600 mm maximum centres.

809 Fire-resisting and smoke control doors/ door assemblies/ doorsets/ roller shutters and curtains – accredited installer

1. Installation: By a firm currently registered under a third-party-accredited fire door installer scheme in accordance with instructions supplied with the product conformity certificate, test report or engineering assessment.

820 Sealant joints

1. Sealant
    1.1. Manufacturer: Submit proposals.
        1.1.1. Product reference: Submit proposals.
    1.2. Colour: To match door frame colour - sample to be provided for approval.
    1.3. Application: As section Z22 to prepared joints. Triangular fillets finished to a flat or slightly convex profile.

830 Fixing ironmongery generally

1. Fasteners: Supplied by ironmongery manufacturer.
    1.1. Finish/ corrosion resistance: To match ironmongery.
2. Holes for components: No larger than required for satisfactory fit/ operation.
3. Adjacent surfaces: Undamaged.
4. Moving parts: Adjusted, lubricated and functioning correctly at completion.

840 Fixing ironmongery to fire-resisting door assemblies

1. General: All items fixed in accordance with door leaf manufacturer's recommendations ensuring that integrity of the assembly, as established by testing, is not compromised.
2. Holes for through fixings and components: Accurately cut.
    2.1. Clearances: Not more than 8 mm unless protected by intumescent paste or similar.
    2.2. Lock/ latch cases for fire doors requiring > 60 minutes integrity performance: Coated with intumescent paint or paste before installation.

850 Location of hinges

1. Primary hinges: Where not specified otherwise, positioned with centre lines 250 mm from top and bottom of door leaf.
2. Third hinge: Where specified, positioned centre line of door leaf or as manufacturer requirements .

3. Hinges for fire-resisting doors: Positioned in accordance with door leaf manufacturer's recommendations.

860 Installation of emergency exit devices

1. Standard: Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.

Ω End of Section

L30
Stairs/ ladders/ walkways/ handrails/ balustrades

Preliminary information/ requirements

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

105 Contractor's design

1. Description: All stairs, balustrades and handrails.
2. Design responsibility: Determine section sizes and strengths and type, sizes and numbers of fixings
3. Structural and fire requirements
   - 3.1. Generally: To structural engineer's requirements.
   - 3.2. Fire performance: To fire consultant requirements.
   - 3.3. Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria.
4. Functional requirements: To Building Regulations (Eng) Approved Documents K and M
5. Design and production information: As Preliminaries section.
6. Timing of submissions: As Preliminaries section.

115 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well managed forests and/ or plantations in accordance with:
   - 1.1. The laws governing forest management in the producer country or countries.
   - 1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   - 2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied or

2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.

3. Chain of Custody Certification scheme: Forest Stewardship Council (FSC).

130 Site dimensions

1. Procedure: Before starting work on designated items take site dimensions, record on shop drawings and use to ensure accurate fabrication.

Components

250 Existing external fire stair

1. Description: Existing external stair is detached from civic centre and to be structurally made good. Detailed structural design required by contractor.

   Finishes to be sandblasted and repainted with external weather resistant paint to specialist subcontractor recommendations. Colour TBC. Carborandum nosings to be applied with contrasting LRV. Colour TBC.

270 Precast concrete stairs to Annex cores

1. Description: Bespoke precast concrete stair with inset nosings. To be developed by structural engineer specialist contractor to meet design intent.
2. Location: Refer to 24-Series scoping drawings for locations
3. Component material, grade, finish as delivered
   3.1. Treads: Pre-cast concrete with special finish to structural engineer's and specialist contractor specifications, and inset black rubber nosings.
      3.1.1. Slip resistance value of integral tread – water wet (minimum): PTV of >36(wet) to BS EN 13036-4
      3.1.2. Slip resistance value of integral nosing – water wet (minimum): PTV of >36(wet) to BS EN 13036-4
      3.1.3. Colour of integral nosing: LRV to BS 8493 contrast of 30 (minimum) with tread.
   3.2. Risers: Pre-cast concrete with colourless matt dust sealer, prepared and primed in accordance with the manufacturer's recommendations.
   3.3. Strings: PPC stringer steel face plate to conceal slab edge. RAL colour TBC to match balustrade L30/550A.
   3.4. Guarding: Balustrade as L30/550A
   3.5. Handrails: Handrail as L30/550A
4. Workmanship
   4.1. Joinery: To section Z10
   4.2. Metalwork: To section Z11
5. Precast Concrete Finish: Smooth dense, even-coloured, blemish-free as-struck finish, to provide Class 1, Type B surface finish to BS 8110: Part 1, uniform in appearance.
   The finish shall have the following additional requirements:
   - Crack widths in the exposed surfaces of the concrete shall not exceed 0.3mm. Confirm the name and address of the suppliers at Tender for inspection by the Architect.
   - Smooth dense as-struck finish with an acid-washed finish to be applied to all visible precast concrete to beams and columns.
   - A smooth, matt, dense, even-coloured, blemish-free concrete surface using grey cement.
   - The finishes shall be uniform in colour and appearance throughout the works.

- The surfaces shall be free from discolouration caused by contamination from release agent, grout leakage, rust staining or other sources.
- Abrupt irregularities shall be not greater than 1mm. Gradual irregularities expressed as maximum permissible deviation from a 1m straightedge shall not be greater than 3mm.
- Produce a smooth even finish with an impervious high quality resin film faced plywood or acceptable equivalent sheet material arranged in an accepted regular pattern as a feature of the surface. This shall coincide with the architectural features as indicated on the Design Drawings.
- There shall be no uneven distribution of aggregate across all visible faces of concrete.
- Generally, surfaces shall be free of voids, honeycombing, segregation and other defects. Voids shall be kept to an absolute minimum whilst ensuring compliance with other requirements of the Specification. The following maximum acceptable limits for air voids/blowholes shall be observed:
- No more than 20mm² of holes for any 100mm x 100mm of surfaces area
- Maximum size of any visible holes is 5mm.
- Cover spacers: Do not use without acceptance.
• Other requirements:
- Requirements for any cast in fixtures/fittings to be agreed with Architect prior to manufacture.
- Fully concealed panel joints.

6. Note: Stair to be in accordance with the Structural Engineer's Details and Specification and Approved Document Part M & K.

275 Existing feature stair and bridge

1. Description:

   Existing in-situ staircase and bridge repair.
   Repair and clean - as per PAYE report recommendations (HCC-PAYE-ZZ-ZZ-RP-C-00002)

2. Stone facings and treads

   2.1. Cleaning Methodology

   2.1.1. Using flat bladed scraper carefully remove adhesive vision/anti-slip strip. Apply chemical stripper to soften adhesive residue and scrape off.

   2.1.2. Apply Vulpex Soap in dilution and agitate with a non-scratch nylon pad. Wash down using clean cold water. Allow to dry and apply floor sealer.

   2.2. Repair Methodology

   2.2.1. To provide increased integrity and strength to impact resin repairs include representative aggregates.

   2.2.2. Damaged sections to be built out using coloured 2-part resin mixed with crushed marble to provide a representative match for the original material.

   2.2.3. Apply resin proud of the surface and allow to cure.

3. Plaster soffits: As M20/210.
4. Balustrade: As L30/555
5. Stair nosings: Carborundum inlays be replaced to match existing.

276 Existing core stairs

1. Description: Existing core stairs repair.
   Repair and clean - as per PAYE report recommendations (HCC-PAYE-ZZ-ZZ-RP-C-00002)
2. Terrazzo: As M41/120.
3. Plaster soffits: As M20/210.
4. Balustrade: As L30/555

5. Stair nosings: Carborundum inlays be replaced to match existing.

460 Metal gratings and hatch

1. Manufacturer: Lang+Fulton or acceptable equivalent.
2. Product reference: Steel Gratings - Heel Proof Flooring or acceptable equivalent.
3. Grating type: Pressure locked gratings (Type-PL).
4. Material: Mild steel S235JR.
5. Finish: Hot-dip galvanized and polyester powder coated.
6. Colour: RAL colour TBC
7. Pattern: Flat bearing and transverse bars, heel-proof.
8. Fixing type: Fixing clips.
9. Size of bearing, transfer bars and aperture: Subject to detailed design at next stage
10. Access hatch: Bespoke integrated access hatch with matching grating. Piston actuated with turn-key for operation TBC . Linked to fire alarm to open in the event of fire with fail-safe button to open. Detailed design by specialist contractor.
11. Other requirements: Contractor to provide support steelwork fixed back to existing structure as required to meet loading requirements identified in structural design information and coordinated with MEP requirements for the vent.

461 Metal gratings for Roof

1. New Item: Metal grating for new build roof.
2. Manufacturer: Elefant gratings or acceptable equivalent.
3. Product reference: Cube or acceptable equivalent.
4. Material: Mild steel
5. Finish: Hot-dip galvanized and polyester powder coated.
6. Colour: RAL colour TBC
7. Fixing type: Subject to detailed design at next stage
8. Size of bearing, transfer bars and aperture: Subject to detailed design at next stage (nom. 240mm wide and 50mm high plank with 20mm return folds)
9. Other requirements: Independent metal upstands where required for waterproofing membrane as J41/113B.

462 Service Trench Planks - DuraSlab

1. Description: Solid glass fibre-reinforced plastics (GRP) plates. Structural flooring panels to form service trench cover.

   To be developed by structural engineer and contractor to meet design intent.
2. Indicative manufacturer: Dura Composites or acceptable equivalent.
3. Indicative product reference: DuraSlab Type 100 (Easy Lift) or acceptable equivalent.
4. Size: Length to suit span; width: 600 mm. Depth -98.5mm
5. Other requirements: Structural performance in line with SE requirements. Design to be developed by contractor.

550A PPC Steel Balustrade

1. Description: Bespoke steel flats balustrade in 'V-shape' with timber handrail. Timber handrail from PPC steel brackets fixed to wall where not balustrade. Refer to drawings 240010 for design intent.
2. Component material, grade and finish as delivered
   2.1. Guarding: PPC steel 25mm flats with setting out as design intent drawings.
   RAL Colour TBC.
   Fixed to steel plate running alongside stair as L30/270.
   Metal supports required to concrete wall to offset handrail 50 mm offset from wall as per Part M regulations.
   Fixings to specialist contractor design
   2.2. Handrails: Semi-circular white oak. To be suitably coated to prevent damage to finish.
   2.2.1. Finish: TouchPoint Shield Antimicrobial Surface Coating
   Timber to be finished in clear waterbased lacquer to manufacturers instructions
3. Workmanship
   3.1. Joinery: To section Z10
   3.2. Metalwork: To section Z11
4. Fixing: All fixings to be concealed and flush to finished surface.
   -Provide samples of components during detailed design
5. Other requirements: Mock-up of section guarding required
   General : construct during detailed design of work in an approved location. Obtain approval of appearance before proceeding. Retain until completion of installation. Extent: a 1 m high section of guarding including one corner and all fixings/proposed junctions of materials.
   Purpose: to obtain approval of appearance.

555 Existing balustrade to feature stair, bridge and stair cores

1. Description: Existing balustrade to feature stair, bridge and stair cores repair. Replace missing section of balustrade (approx 1m) where previously removed for platform lift. New balustrade to match existing. Modify handrail to north wing north stair external walls to suit insulated lining.
2. Aluminium ballusters and horizontal rails: To be cleaned and repaired to specialist subcontractor recommendations. Balustrades resistance and fixings to be tested before repair. Domed heads to be replaced to match where missing.
3. Georgian wired glass: Clean to specialist subcontractor recommendations. Replace any cracked glazed elements with glazing to match existing.
4. Timber handrails and kickplates: As C51.
   - Clean as C51/750.
   - Lightly sand.
   4.1. Finish: As M60/161.

556 Existing balustrade to council chamber gallery

1. Description: Balustrade to be cleaned and repaired to specialist subcontactor recommendations.

560 Existing balcony system to Civic Centre East Elevation

1. Description:

   Repair and refurbishment of existing balcony to East elevation of Civic Centre. Allow for repair to all fixings and finishes and waterproofing to match original including refurbishment of glass

balustrade and cast iron metal work facia's. Specialist subcontractor to provide recommendations for review and benchmark sample finishes for all items.

580 Metal handrail

1. Description: Galvanised metal wall-mounted handrail
2. Manufacturer: Kee Systems or acceptable equivalent.
   2.1. Product reference: Kee Klamp or acceptable equivalent.
3. Component material and finish as delivered
   3.1. Handrails: Galvanised cast iron
   3.2. Brackets: Galvanised cast iron
4. Fixing: As manufacturer recommendations
   4.1. Centres: As manufacturer recommendations

Installation

610 Moisture content

1. Temperature and humidity: Monitor and control internal conditions to achieve specified moisture content in wood components at time of installation.

620 Priming/ Sealing/ Painting

1. Surfaces inaccessible after assembly/installation: Before fixing components, apply full protective/decorative treatment/coating system.

630 Corrosion protection of dissimilar materials

1. Components/ substrates/ fasteners of dissimilar materials: Isolate using washers/ sleeves or other suitable means to separate materials to avoid corrosion and/ or staining.

640 Installation generally

1. Fasteners and methods of fixing: To section Z20.
2. Structural members: Do not modify, cut, notch or make holes in structural members, except as indicated on drawings.
3. Temporary support: Do not use stairs, walkways or balustrades as temporary support or strutting for other work.
4. Applied finishes: Substrates to be even, dry, sound and free from contaminants. Make good substrate surfaces and prepare/ prime as finish manufacturer’s recommendation before application.

670 Installation of tread inserts/ nosings

1. Treads: Fully cured, sound and level.
2. Fixing
   2.1. Location/ position: In accordance with BS 8300-2 / to match existing.
   2.2. Fixings: As manufacturer's recommendations

Completion

910 Inspection

1. Timing: For each section of work - two weeks prior to date when contractor expects work to be practically complete
2. Period of notice (minimum): Five working days

915 Slip resistance testing

1. Surfaces to be tested:

   Subject to confirmation from Building Control if requird.

920 Documentation

1. Contents
   1.1. Copies of structural design calculations/ test reports.
   1.2. General product information.
   1.3. Installation information.
   1.4. Inspection and maintenance reports.
2. Number of copies: Hard and soft copy
3. Submission: Two weeks prior to date when contractor expects work to be practically complete

Ω End of Section

L35
Fixed utilitarian access systems

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Companionway ladder systems (NB)

1. Standard: In accordance with BS5395: Part 3 and BS 4211:2005 + A1 2008
2. Manufacturer: Bilco UK or acceptable equivalent.
   2.1. Product reference: Bilco Ladders BL-COMPA - Companionway (Ships Stair) ladderor acceptable equivalent.
3. Steps
   3.1. Material: Aluminium folded chequerplate
4. Handrail system: Aluminium handrail at 100mm (nom.)
5. Type: BL-COMPAS. Allow for midway rest platform.
6. Height: 5000mm
7. System accessories: Ladder up safety post - allow for additional bracket as required.
8. Brackets: 50 x 10 mm flat bar.
9. Angle: 75° ladder angle.
10. Tread width: 600 mm.
11. Other requirements: Installed as manufacturer's recommendations.

130A Permanently-fixed vertical ladder systems (CC)

1. Description: External access vertical aluminium ladder with cage and guardrail to civic centre roof
2. Manufacturer: Bilco UK or acceptable equivalent.
3. Product reference: TYPE BL-WG Fixed Ladder with Safety Cage + Guard Railor acceptable equivalent.
4. Stiles: Alloy Class 1, 70 x 25 mm.

5. Rungs: Class 1 heavy duty square.
6. Height: 4000mm
7. Safety cage: Cages above 2200–3000 mm; Strap: 50 x 10 mm flat bar, five straps as BS 4211:2005; mill finish dome head bolts.
8. Type: BL-A-WG3.
9. Brackets: 50 x 10 mm alloy rectangular bar stand-off brackets.
10. Overall width: 488 mm.
11. Other requirements: Installed as manufacturer's recommendations.

130B Permanently-fixed vertical ladder systems (CC)

1. Description: Access vertical aluminium ladder to civic centre roofs access hatches within roof pop-ups.
2. Manufacturer: Bilco UK or acceptable equivalent.
3. Product reference: Bilco Ladders BL-A - Fixed Vertical Ladder or acceptable equivalent.
4. Stiles: Alloy Class 1, 70 x 25 mm.
5. Rungs: Class 1 heavy duty square.
6. Assembly connectors: Stainless steel hexagon head screws
7. System accessories: Ladder up safety post.
8. Type: BL-A-1.
9. Brackets: 50 x 10 mm alloy bar stand-off brackets.
10. Overall width: 488 mm.
11. Other requirements: Installed as manufacturer's recommendations.

150 Stair systems - Civic Centre Roof Access

1. Description: Galvanised steel staircase with grating to Civic Centre roof.
2. Method of provision: Fabricated off site and assembled on site.
3. Manufacturer: Steelway or acceptable equivalent.
4. Dimensions: As shown in drawings.
5. Basic component material: Galvanized carbon steel.
6. Treads: Open bar gratings.
7. Stringers: Submit proposals.
8. Assembly connectors: Submit proposals.
9. Fixing to superstructure: Submit proposals.

System performance

212 Contractor’s design

1. Design responsibility: Determine section sizes and strengths and type, sizes and numbers of fixings.
2. Structural requirements:
   2.1. Generally: As Structural Engineer information.
   2.2. Design: Complete in accordance with the designated code of practice to satisfy specified performance criteria.
3. Functional requirements:

3.1. Straight stairs and winders: In accordance with BS 5395-1 and BS 4211:2015 + A1:2008.

3.2. Companionways: In accordance with BS 5395-3 and BS 4211:2015 + A1:2008.

3.3. Industrial stairs, permanent ladders and walkways: In accordance with BS 5395-3 and BS 4211:2015 + A1:2008.

3.4. Industrial type flooring, walkways and stair treads: To BS 4592

3.5. External walkways: To BS 8300-1 and -2

4. Additional requirements: Responsibility and coordination at design interfaces.
5. Design and production information: - List of calculations to demonstrate compliance with specified structural and functional criteria or verification of performance by testing or computer modelling.
   - Detailed drawings showing setting out, fixings and coordination with surrounding interfaces.
   - Details and locations of connections to supporting structure.
   - Manufacturer's information confirming adequacy of proprietary products.
6. Timing of submissions: As Preliminaries specification.
7. Proposals: Submit drawings, technical information, calculations and manufacturers' literature.

Products - Not Used

Fabrication

510 Fabrication generally

1. Shop drawings: Submit.

Execution

620 Execution generally

1. Structural members: Do not subject to nondesign loading. Do not modify, cut, notch or make unspecified holes.
2. Frameworks: Assemble and brace, including temporary members required for installation.
   2.1. Temporary support: Do not use access systems as temporary support or strutting for other work.
3. External durability of fastenings: Corrosion resistant material or with a corrosion resistant finish.
4. Bolted joints
   4.1. Contact between dissimilar metals: Avoid.
   4.2. Bolts and washers: Select types, sizes and quantities of fasteners or packings and spacings to retain supported components without distortion or loss of support.
5. Welded joints
   5.1. Standards
      5.1.1. Aluminium alloys: TIG or MIG welding to BS EN 1011-4.
      5.1.2. Carbon steel: Metal arc welding to BS EN 1011-1 and -2.
      5.1.3. Stainless steel: TIG welding to BS EN 1011-3.
   5.2. Surfaces to be jointed: Clean.
   5.3. Tack welds: Use only for temporary attachment.
   5.4. Traces of flux residue, slag and weld spatter: Remove.
   5.5. Surface of welds: Grind smooth.
   5.6. Joints: Fully bonded with no holes of cracks.

6. Finished components
   6.1. Free: From distortion, cracks, burrs and sharp arrises.
   6.2. Corner junctions of identical sections: Mitre.
   6.3. Handrails: Smooth and continuous, with no sharp edges.

660 Anchoring

1. Fixing positions: Coordinate location of holding down bolts and wall fixings with services fixing positions.
2. Edge distance and spacing (minimum): Submit proposals

Completion

910 Cleaning

1. General: Clean surfaces and wipe down finishes.

920 Inspection

1. Notice for inspection (minimum): 5 days

930 Documentation

1. Operation and maintenance instructions: Submit.
2. Record drawings: Submit.

Ω End of Section

L40
General glazing

General requirements

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team. Level of UV protection to be confirmed by specialist subcontractor and validated as suitable to protect heritage items.
4. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

150 Workmanship and positioning generally

1. Refer to EOC performance specification for requirements.
2. Glazing generally: In accordance with BS 6262 series.
3. Integrity: Glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
4. Dimensional tolerances: Panes/ sheets to be within ± 2 mm of specified dimensions.
5. Materials
   - 5.1. Compatibility: Glass/ plastics, surround materials, sealers, primers and paints/ clear finishes to be used together to be compatible. Avoid contact between glazing panes/ units and alkaline materials such as cement and lime.
   - 5.2. Protection: Keep materials dry until fixed. Protect insulating glass units and plastics glazing sheets from the sun and other heat sources.

155 Glass generally

1. Refer to EOC performance specification for requirements.
2. Standards: To BS 952 and relevant parts of:
   - 2.1. BS EN 572 for basic soda lime silicate glass.
   - 2.2. BS EN 1748-1-1 for borosilicate glass.
   - 2.3. BS EN 1748-2-1 for ceramic glass.

2.4. BS EN 1863 for heat-strengthened soda lime silicate glass.

2.5. BS EN 12150 for thermally toughened soda lime silicate safety glass.

2.6. BS EN 12337 for chemically strengthened soda lime silicate glass.

2.7. BS EN 13024 for thermally toughened borosilicate safety glass.

2.8. BS EN ISO 12543 for laminated glass and laminated safety glass.

3. Panes/ sheets: Clean and free from obvious scratches, bubbles, cracks, rippling, dimples and other defects.

3.1. Edges: Generally undamaged. Shells and chips not more than 2 mm deep and extending not more than 5 mm across the surface are acceptable if ground out.

Types of glazing

610 Protective film to existing glazing

1. Type: Safety
2. Manufacturer: LLumar by EASTMAN or acceptable equivalent.

2.1. Product reference: Safety Clear 100µ SCL SR PS 4 or acceptable equivalent.

3. Colour: Clear
4. Performance requirements: Refer to performance datasheet from Llumar.
5. Application: Carried out by a firm approved by the film manufacturer in accordance with manufacturer's recommendations.

5.1. Evidence of applicator's competence and experience: Submit on request.

5.2. Sample area: Complete as part of the finished work, in an approved location and obtain approval of appearance before proceeding.

5.3. Ambient air temperature at time of application: Above 5°C.

6. Installed film: Fully adhered to the glass with no peeling, and free from bubbles, wrinkles, cracks or tears.
7. Further contact with applied films: Avoid until bonding adhesive has cured.
8. Cleaning and maintenance instructions: Submit copies.

630 Manifestation

1. Standard: Shall be provided to all curtain walling, windows, doors as required by Approved Document K.
2. Technique: Post-applied film
3. Pattern: Allow for bespoke pattern to be designed at next stage.
4. Other requirements: Ensure compliance with glass to prevent thermal stress and failure. Refer to EOC for performance specifications.

631 Coloured film to existing glazing

1. Type: A new PVC-free decorative window film to create colour shifting effect to interior glass panels
2. Manufacturer: Vion by William Smith Group or acceptable equivalent.

2.1. Product reference: Vion Dichronic Film

3. Colour: Ambience Glacial - Glacial - TBC
4. Performance requirements: Refer to performance datasheet from VION/ William Smith

5. Application: Carried out by a firm approved by the film manufacturer in accordance with manufacturer's recommendations.
    5.1. Evidence of applicator's competence and experience: Submit on request.
    5.2. Sample area: Complete as part of the finished work, in an approved location and obtain approval of appearance before proceeding.
    5.3. Ambient air temperature at time of application: Above 5°C.
6. Installed film: Fully adhered to the glass with no peeling, and free from bubbles, wrinkles, cracks or tears.
7. Further contact with applied films: Avoid until bonding adhesive has cured.
8. Cleaning and maintenance instructions: Submit copies.

Ω End of Section

M10
Cement based levelling/ wearing screeds

Types of screed

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

130 Proprietary quick drying levelling screeds - Heavy Duty Floating

1. Description: Heavy duty floating screed to cafe area. Refer to floor finish plans.
2. Substrate: In situ concrete.
3. Screed manufacturer: Flowcrete UK Ltd or acceptable equivalent.
   - 3.1. Product reference: Isocrete Heavy Duty K-Screed or acceptable equivalent with a proprietary underfloor heating system where required.
4. Screed construction: Floating as clause 290, incorporating underfloor heating where required.
   - 4.1. Reinforcement for crack control: As Clause 392.
5. Thickness
   - 5.1. Nominal: 100mm +.
   - 5.2. Minimum: 75mm (Minimum 35mm cover over pipes).
6. Mix
   - 6.1. Cement: Standards as clause 302.
   - 6.2. Aggregates: Standards as clause 305.
   - 6.3. Coarse aggregate single size: 5mm (or 6mm).
   - 6.4. Proportions: To manufacturer's recommendations.
7. In situ crushing resistance (ISCR) category: A (3mm maximum indentation).
   - 7.1. Mass of test weight: 4kg.
8. Flatness/ Surface regularity class: SR2 generally.
9. Finish: Trowelled, as clause 540
   - 9.1. To receive: Terrazzo tile as M41. Refer to floor finish drawings -43 series.

10. Other requirements: Lay the screed in two layers, the bottom layer being a little wetter than usual to ensure full compaction around the heating pipes. Separation joints should be formed against walls and columns by using strips of compressible material.
    Where a thin floor finish is to be installed, overlay with a suitable thin section smoothing underlayment.
    Refer to service engineer's information for extent of floor areas requiring underfloor heating and validate system with UFH supplier.

140 Proprietary polymer modified levelling screeds - Heavy Duty Isopol SBR Floating

1. Description: Heavy duty floating screed to plant and post room areas of new build. Refer to floor finish drawings -43 series.
2. Substrate: In situ concrete slab
3. Screed manufacturer: Flowcrete UK Ltd or acceptable equivalent.
    3.1. Product reference: Isocrete Heavy Duty Isopol SBR or acceptable equivalent.
4. Screed construction: Floating as clause 290.
5. Thickness
    5.1. Nominal: 100mm +.
    5.2. Minimum: 75 mm (or 100 mm if insulation thickness exceeds 150 mm).
6. Mix:
    6.1. Cement: Standards as clause 302A.
    6.2. Aggregates: Standards as clause 305.
    6.3. Proportions (cement:sand): 1:4 by volume plus Isocrete Isopol SBR content to manufacturer’s recommendations.
    6.4. Sand: Coarse aggregate: 3:1 by volume.
7. In situ crushing resistance (ISCR) category: A (3 mm maximum indentation)
    7.1. Mass of test weight: 4kg
8. Flatness/ Surface regularity class: Maximum permissible deviation: SR2 generally
9. Finish: Trowelled as clause 540.
    9.1. To receive: Flowcoat SF41 Textured Variant as M12/110B. Refer to floor finish drawings -43 series.
10. Other requirements: Where a thin floor finish is to be installed, overlay with a suitable thin section smoothing underlayment.

160 Proprietary self smoothing levelling screeds - Isocrete Self Level Renovation

1. Substrate: Existing concrete slab / screed. Before screeding, fill deep irregularities with Isocrete 4000 hand applied underlayment.
2. Screed manufacturer: Flowcrete UK Ltd or acceptable equivalent.
    2.1. Product reference: Isocrete Self Level Renovation or acceptable equivalent.
3. Screed construction: Bonded as Clause 266 (additional) with Isocrete Primer or with Hydraseal DPM as Clause 268 (additional) if RH of base exceeds 75%.
4. Thickness
    4.1. Nominal: 10mm.
    4.2. Minimum: 5mm.
    4.3. Maximum: 50mm.

5. Standards: Comply with BS 8204-7 'Pumpable self levelling screeds, Code of Practice'.
6. In situ crushing resistance (ISCR) category: A/B (3/4 mm maximum indentation).
   6.1. Mass of test weight: 4kg.
7. Flatness/ Surface regularity class: Maximum permissible deviation: SR1.
8. Finish to receive: Flowfast TR resin system as M12/110A.

161 Proprietary self smoothing levelling screeds - Isocrete 1500

1. Substrate: Existing concrete / screed. Before screeding, fill deep irregularities with Isocrete 4000 hand applied underlayment.
2. Screed manufacturer: Flowcrete UK Ltd or acceptable equivalent.
   2.1. Product reference: Isocrete 1500 or acceptable equivalent.
3. Screed construction: Bonded as Clause 266 with Isocrete Primer or with Hydraseal DPM as Clause 268 if RH of base exceeds 75%.
4. Thickness
   4.1. Nominal: 5mm.
   4.2. Minimum: Featheredge.
   4.3. Maximum: 20mm.
5. Standards: Comply with BS 8204-7 'Pumpable self levelling screeds, Code of Practice'.
6. In situ crushing resistance (ISCR) category: B (4 mm maximum indentation)
   6.1. Mass of test weight: 4kg.
7. Flatness/ Surface regularity class: Maximum permissible deviation: SR1
8. Finish to receive: Carpet as M50/130A and M50/130B as floor finish drawings

Generally/ preparation

205 Design life of screeds

1. Duration: 50 years
   1.1. Subject to reasonable wear and tear.
2. Location: All locations, refer to -43 series drawings.
3. Condition of use: Subject to correct loading and traffic usage throughout duration.

210 Suitability of substrates

1. General
   1.1. Suitable for specified levels and flatness/ regularity of finished surfaces. Consider permissible minimum and maximum thicknesses of screeds.
   1.2. Sound and free from significant cracks and gaps.
2. Concrete strength: In accordance with BS 8204-1, Table 2.
3. Cleanliness: Remove plaster, debris and dirt.
4. Moisture content: To suit screed type. New concrete slabs to receive fully or partially bonded construction must be dried out by exposure to the air for minimum six weeks.

220 Proprietary levelling/wearing screeds

1. General: Materials, mix proportions, mixing methods, minimum/ maximum thicknesses and workmanship must be in accordance with recommendations of screed manufacturer.

2. Standard: In accordance with BS 8204-3.

221 General note

1. FLOWCRETE PROPRIETARY SCREEDS are to be laid in accordance with the instructions of Flowcrete UK Ltd, The Flooring Technology Centre, Booth Lane, Moston, Sandbach, Cheshire, CW11 3QF (tel 01270 753 753) by one of their Approved Licensees.

230 Control samples

1. General: Complete areas of finished work and obtain approval of appearance before proceeding.
2. Screed type: All screed types.
    2.1. Location/ Size: 5sqm minimum.

250 Conduits under floating screeds

1. Haunching: Before laying insulation for floating screeds, haunch up in 1:4 cement:sand on both sides of conduits.

251 Conduits cast into or under screeds

1. Reinforcement: Overlay with reinforcement selected from:
    1.1. 500 mm wide strip of steel fabric to BS 4483, reference D49, or
    1.2. Welded mesh manufactured in rolls from mild steel wire minimum 1.5 mm diameter to BS 1052, mesh size 50 x 50 mm.
2. Placing reinforcement: Mid depth between top of conduit and the screed surface.
    2.1. Width of reinforcement (minimum): 300 mm.
3. Screed cover over conduit (minimum): 25 mm.

255 Pipe ducts/ trunking

1. Preformed access ducts: Before laying screed, fix securely to substrates and level accurately in relation to finished floor surface.

266 Fully bonded construction with Flowcrete proprietary self levelling screeds

1. The substrate is to be solid with any loose or friable material removed. Shortly before priming, completely remove mortar matrix from surface to expose coarse aggregate over entire area of hardened base using abrasive blasting or, for *in situ* slabs only, pneumatic scabbling. Remove all dust and debris by vacuum.
2. Holes through the substrate must be sealed to prevent leaks.
3. Deep irregularities are to be filled prior to screeding with Isocrete 4000 hand applied underlayment.
4. The substrate is primed with Isocrete Primer.
5. Isocrete 1500 is laid onto the substrate once the primer is tacky or dry.

268 Fully bonded construction with Hydraseal surface DPM

1. The substrate is to be solid with any loose or friable material removed. Shortly before priming, completely remove mortar matrix from surface to expose coarse aggregate over entire area of hardened base using abrasive blasting or, for *in situ* slabs only, pneumatic scabbling. Remove all dust and debris by vacuum.
2. Holes through the substrate must be sealed to prevent leaks.

3. Deep irregularities are to be filled prior to screeding with Isocrete 4000 hand applied underlayment.
4. Apply 1st coat of Hydraseal epoxy resin surface DPM. Allow to cure.
5. Apply 2nd coat of Hydraseal epoxy resin surface DPM.
6. While the second coat is still wet, fully broadcast with dry 1-2 mm silica or quartz sand. Allow to cure.
7. Shortly before laying Isocrete 1500, remove any excess sand by sweeping and vacuum.

290 Floating construction

1. Insulation
   1.1. Type: As P10/186
   1.2. Installation: Lay with tight butt joints. Continue up at perimeter abutments for full depth of screed.
   1.3. Assumed maximum compressive strength: 45kPa at 1% strength
2. Separating layer
   2.1. Type: 500 gauge polythene
   2.2. Installation: Lay over insulation and turn up at perimeter abutments. Lap 100 mm at joints.
3. The load carrying capabilities of any screed laid in floating construction on thermal and/or acoustic insulation is dictated by the strength of that insulation.
   It is the responsibility of the appropriate project consultant at detailed design stage to take into account the design imposed loads qk and Qk of the NA to BS EN 1991-1-1 and their distribution through to the insulation to ensure that the design strength of the insulation is not exceeded. This assessment should include any temporary loading from site construction or end user access equipment. It is advised that any compression of the insulation, under loading, should not exceed 1.5 mm.
   Failure to carry out this assessment may lead to over compression of the insulation and excessive deflection of the screed leading to cracking and possible collapse.

Batching/ mixing

302 Cements

1. Cement types: In accordance with BS 8204-1, clause 5.1.3.
2. Cement to be bagged and preblended with Isocrete K-Additive and Isocrete PP Fibres where required by manufacturer. Refer to Clauses 332 and 392.

302A Cements

1. Cement types: In accordance with BS 8204-1, clause 5.1.3.

305 Aggregates

1. Sand: To BS EN 13139.
   1.1. Grading limits: In accordance with BS 8204-1, Table B.1.
2. Coarse aggregates for fine concrete levelling screeds
   2.1. Standard: To BS EN 12620.
   2.2. Designation: 4/10.
3. Lightweight aggregates: In accordance with BS 8204-1, Annex A.

310 Batching with dense aggregates

1. Mix proportions: Specified by weight.
2. Batching: Select from:
    2.1. Batch by weight.
    2.2. Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.

320 Batching and mixing proprietary self levelling pumped screeds

1. Flowcrete self levelling pumped screeds are only to be mixed in an approved continuous mixer discharging into an approved screed pump. Smaller areas may be laid without pumping, in which case the material must be mixed in accordance with the manufacturer's instructions with a suitable mechanical mixer.
2. Only the Flowcrete screed powder and water are to be mixed. No other admixtures are permitted.

321 Batching and mixing proprietary self levelling hand applied screeds

1. Flowcrete self levelling hand applied screeds are to be mixed using a heavy duty electric drill and helical mixer for a minimum of 60 seconds.
2. Only the Flowcrete screed powder and water are to be mixed. No other admixtures are permitted.

330 Mixing

1. Water content: Minimum necessary to achieve full compaction, low enough to prevent excessive water being brought to surface during compaction.
2. Mixing: Mix materials thoroughly to uniform consistency. Mixes other than no-fines must be mixed in a suitable forced action mechanical mixer. Do not use a free fall drum type mixer.
3. Consistency: Use while sufficiently plastic for full compaction.
4. Ready-mixed retarded screed mortar: Use within working time and site temperatures recommended by manufacturer. Do not retemper.

335 In situ crushing resistance (ISCR)

1. Standards and category: In accordance with BS 8204-1, table 4.
    1.1. Testing of bonded and unbonded screeds: To Annex D.
    1.2. Testing of floating levelling screeds: To Annex E.

340 Adverse weather

1. Screeds surface temperature: Maintain above 5°C for a minimum of four days after laying.
2. Hot weather: Prevent premature setting or drying out.

341 Working conditions (for Flowcrete self levelling screeds)

1. The building should be ready for normal finishing work. Windows and openings should be closed.
2. Indoor and floor temperature must exceed + 10°C. The mix temperature should not exceed + 25°C.

Laying

345 Level of screed surfaces

1. Permissible deviation: (allowing for thickness of coverings) ±5 mm from datum.

350 Screeding to falls

1. Minimum screed cover: Maintain at the lowest point.
2. Falls: Gradual and consistent.
    2.1. Gradient (minimum): As shown on drawings.

351 Screeding to ramps

1. Screed cover: Maintain minimum screed cover at lowest point.
2. Falls: Gradual and consistent.

355 Flatness/ Surface regularity of floor screeds

1. Standard: In accordance with BS 8204-1, Table 5.
2. Test: In accordance with BS 8204-1, Annex C.
3. Sudden irregularities: Not permitted.

365 Flatness/ Surface regularity of roof screeds

1. Sudden irregularities: Not permitted.
2. Deviation of surface: Measure from underside of a 2 m straightedge (between points of contact), placed anywhere on surface.
    2.1. Permissible deviation (maximum): 6 mm.

375 Compaction of screeds

1. General: Compact thoroughly over entire area.
2. Screeds over 75 mm thick: Lay in two layers of approximately equal thickness. Roughen surface of compacted lower layer then immediately lay upper layer.

392 General reinforcement

1. Type: Isocrete PP Fibres.
2. Installation: To be mixed with the screed at the dosage recommended by the manufacturer.

395 Strip reinforcement

1. Location: Across daywork joints and over the support beams/walls of a precast concrete floor.
2. Steel fabric: To BS 4483, table 1.
    2.1. Type D49.
    2.2. Width of strips: 500mm minimum.
3. Installation: In accordance with BS 8204-1.

405 Joints in levelling screeds generally

1. Laying screeds: Lay continuously using 'wet screeds' between strips or bays. Minimize defined joints.

2. Daywork joints: Form with vertical edge.

406 Bay joints in levelling screeds

1. Screed type: Clause 130, 140, 160 and 161.
2. Bay sizes
   2.1. Area (maximum): Subject to confirmation by subcontractor to amount that can be installed in a day for each type and manufacturer recommendations for room geometry and floor finish type.
3. Location of bay joints: Coordinate with those required for substrate slab and floor covering.

407 Screeds to receive rigid tiles

1. Where rigid tiles are laid in bays, a saw cut should be made through approximately half the screed depth, coincident with the bay joints in the tiles. Note coordination required with any underfloor heating.
2. The saw cut is to be made at the time the tiles are laid to ensure accurate positioning.
3. The depth of cut should not cut through the screed reinforcement (if present).

408 Joints in screeds (proprietary self levelling screeds)

1. Unless otherwise specified, pump screeds continuously, as far as possible without defined joints. Obtain approval for position of bay joints.
2. In large open areas, the screed may be placed in strips with the material butt jointed to areas previously laid.
3. The joint between adjacent strips is to be made good, if necessary, with Flowcrete hand applied materials.

428 Heated screeds

1. General: Coordinate with UFH supplier and confirm compatibility.
2. Substrate slab: Irregularities not permitted.
3. Screed bays, movement joints and other joints: Coordinate with heating circuits and floor finish type. Movement joints required at the interface of areas of screed on different heating circuits or between heated and unheated areas.
4. Heating elements: Secure properly. Prevent displacement.
5. Screed laying: Compact thoroughly around heating elements. Do not damage them.
6. Other: Ensure underfloor heating is commissioned before final floor finish is laid.

440 Crack inducing grooves in levelling screeds

1. Groove depth: At least half the depth of screed.
2. Cutting grooves: Straight, vertical and accurately positioned. Select from the following:
   2.1. Trowel cut as screed is laid.
   2.2. Saw cut sufficiently early after laying to prevent random cracking.

Finishing/curing

510 Finishing generally

1. Timing: Carry out all finishing operations at optimum times in relation to setting and hardening of screed material.

2. Prohibited treatments to screed surfaces
   2.1. Wetting to assist surface working.
   2.2. Sprinkling cement.

520 Wood floated finish

1. Finish: Slightly coarse, even texture with no ridges or steps.

530 Smooth floated finish

1. Finish: Even texture with no ridges or steps.

540 Trowelled finish to levelling screeds

1. Floating: To an even texture with no ridges or steps.
2. Trowelling: To a uniform, smooth but not polished surface, free from trowel marks and other blemishes, and suitable to receive specified flooring material.

590 Surface finish to proprietary self levelling screeds

1. The screed is to be pumped or poured onto the substrate and allowed to flow to produce a self-levelled, smooth surface. Agitation of the material may be employed if necessary to assist the levelling and smoothing while the material is still fluid.

650 Curing

1. General: Prevent premature drying. Immediately after laying, protect surface from wind, draughts and strong sunlight. As soon as screed has set sufficiently, closely cover with polyethylene sheeting.
2. Curing period (minimum): Keep polyethylene sheeting in position for: minimum of 2 days.
3. Drying after curing: Allow screeds to dry gradually. Do not subject screeds to artificial drying conditions that will cause cracking or other shrinkage related problems.
4. Do not heat screeds or the building artificially until dry to below 75% relative humidity; thereafter raise temperature slowly.

710 Following trades

1. Adequately protect screeds/toppings from damage and contamination by subsequent building operations.

Ω End of Section

M12
Resin flooring

Types of flooring

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110A Resin flooring - Flowfast TR

1. Description: Resin flooring with terrazzo effect finish to circulation areas. Refer to floor finishes drawings -43 series.
2. Substrate: Isocrete SL Renovation bonded screed as M10/160
   - 2.1. Preparation: As clause 230.
3. Resin flooring system to BS EN 13813
   - 3.1. Evidence of compliance: Submit.
   - 3.2. Manufacturer: Flowcrete or acceptable equivalent.
   - 3.3. Primer reference: Flowfast 101 Standard Primer. Scatter with Natural Quartz 0.3 – 0.7mm while still wet.
   - 3.4. Resin flooring reference: Flowfast TR or acceptable equivalent.
   - 3.5. Nominal thickness: 4-5mm.
   - 3.6. Colour: Cream.
   - 3.7. Surface finish/ treatment: Seal with two coats of Flowfast 304 Standard Seal
4. Flatness/ Surface regularity
   - 4.1. Sudden irregularities: Not permitted.
   - 4.2. Classification of surface regularity to BS 8204-6: SR2
5. Slip resistance: Pendulum test value to BS 7976-2 or in accordance with BS 8204-6, Annex B: 50 (minimum) for dry and 24 (minimum) for wet tests.
6. Other requirements: Resin skirtings / upstands as clause 410A.

110B Resin flooring - Flowcoat SF41

1. Description: Resin flooring to plant areas and mail room in new build. Refer to floor finishes drawings -43 series.
2. Substrate: Isocrete Heavy Duty K-Screed as M10/130.
    2.1. Preparation: As clause 230.
3. Resin flooring system to BS EN 13813
    3.1. Evidence of compliance: Submit.
    3.2. Manufacturer: Flowcrete or acceptable equivalent.
    3.3. Primer reference: Not required.
    3.4. Resin flooring reference: Flowcoat SF41 or acceptable equivalent.
    3.5. Application: 400 microns.
    3.6. Colour: TBC.
    3.7. Surface finish/ treatment: Apply (52 or 30) mesh silica sand immediately after application of the first coat. Allow to cure, remove excess sand and encapsulate with the second coat.
4. Flatness/ Surface regularity
    4.1. Sudden irregularities: Not permitted.
    4.2. Classification of surface regularity to BS 8204-6: N/a.
5. Slip resistance: Pendulum test value to BS 7976-2 or in accordance with BS 8204-6, Annex B: 36 (minimum) for wet and dry tests.
6. Other requirements: Resin skirtings / upstands as clause 410.

110C Resin flooring - Repair to existing

1. Description: Resin flooring to localised areas in existing building. Refer to floor finishes drawings -43 series.
2. Substrate: Existing sand-cement screed.
    2.1. Preparation: As clause 230 o Clause 231.
3. Resin flooring system to BS EN 13813
    3.1. Evidence of compliance: Submit.
    3.2. Manufacturer: Flowcrete or acceptable equivalent.
    3.3. Primer reference: Not required.
    3.4. Resin flooring reference: PHS (Penetrating Hardening System) or acceptable equivalent.
    3.5. Nominal thickness: N/A – PHS is a penetrating sealer and is not intended to act as a coating.
    3.6. Colour: TBC.
    3.7. Surface finish/ treatment: None.
4. Flatness/ Surface regularity
    4.1. Sudden irregularities: Not permitted.
    4.2. Classification of surface regularity to BS 8204-6: N/a.
5. Other requirements: For cracks wider than approximately 2 mm, a dry, fine grade silica sand (approx 95 mesh) can be added to the PHS.
6. Note: Once PHS is mixed, a very exothermic reaction starts (i.e. much heat is generated). The mixed product should be split into smaller containers and applied immediately after mixing. If the mix is not applied within 10 - 20 minutes, copious amounts of acrid smoke will be generated.

Specialist subcontractor to assess risk and advise on application alongside manufacturer recommendations.

Preparation of substrates

210 Testing moisture content of substrates

1. Acceptability: Do not apply PHS until the screed surface is visibly surface dry. As manufacturer recommendations for other resin flooring systems.

220 Surface hardness of substrates

1. General: Substrates must restrain stresses that occur during setting and hardening of resin.
2. Test for surface hardness: To BS EN 12504-2 using a rebound hammer.
3. Test results: Submit.
4. Areas of non-compliance: Submit remedial proposals.

230 Preparation of substrates - screed strengthening

1. Grind surface of screed. Remove all residues to leave a dry and dust free open textured surface.

231 Preparation of substrates - crack repairs

1. Open up the top surface of the cracks where necessary.
2. Rake out any loose or spalled screed from the cracks and vacuum clean to remove dust and debris.

232 Preparation of substrates - debonded screed

1. Drill through screed at no more than 100 mm centres in debonded areas.
2. Vacuum out all dust from holes and surrounding areas.

240 Existing substrates

1. Preparation: Remove surface imperfections, ingrained contaminants, coatings and residues.
    1.1. Contaminated areas: Submit proposals for removal and repair.

250 Existing tile/ sheet floor coverings

1. Preparation: Remove coverings, residual adhesive, bedding, grouting and pointing.

260 Metal substrates

1. Cleaning: Shot blast to BS EN ISO 8501-1, Grade Sa2.5.
    1.1. Treated surfaces: Clean. Free from visible oil, grease and dirt, mill scale, rust, paint coatings and foreign matter.

Laying flooring

310 Workmanship

1. Operatives
    1.1. Trained/ Experienced in the application of resin floorings.
    1.2. Evidence of training/ experience: Submit on request.
2. Appearance: Consistent.

3. Curing: Allow 24 hours before overlaying or trafficking.

320 Control samples

1. Complete areas of finished work in the following locations: 15m² area - contractor to propose location for approval.
2. Approval of appearance: Obtain before proceeding.

330 Priming

1. Application: Even to completely wet, penetrate and seal substrates.
2. Coverage per coat (minimum): 0.3 kg/m².
3. Curing period (maximum): Unlimited

350 Coated resin flooring

1. Application: Even, of uniform thickness, surface finish and colour.

350A PHS to strengthen screed

1. Application: Evenly, but may vary according to the porosity of the substrate

350B PHS to repair cracks in screed

1. Application: Pour PHS into the cracks, and top up until no further material is absorbed.

350C PHS to repair debonded screed

1. Application: Pour PHS into the holes, and top up until no further material is absorbed.

357 Trowel applied screeded resin flooring

1. Application: Even and thoroughly compacted, of uniform thickness, surface finish and colour.

380 Surface sealer

1. Application: Even to completely wet resin surface.

390 Slip resistance testing of finished resin flooring

1. Standard: In accordance with BS 8204-6, Annex B and pendulum test to BS 7976-2.
2. Timing: Give notice.
   2.1. Notice period (minimum): 2 weeks.
3. Results: Submit pendulum test values, for both wet and dry states.

400 Bond strength of resin flooring

1. Contact surfaces: Substrate and fully cured resin flooring.
2. Bond: PHS should penetrate into the substrate.
3. Test: N/a.

400A Bond strength of resin flooring

1. Contact surfaces: Substrate and fully cured resin flooring.
2. Bond: In accordance with manufacturer's performance data.

3. Test: To BS 8204-6, clause 11.4 and BS EN 1542.

410 Resin skirtings/ upstands

1. Quality: Render grade resin.
   1.1. Cove mix: Flowtex F1 Mortar.
   1.2. Primer: Peran TCW. Apply cove mix to tacky primer.
   1.3. Coating: Two coats Flowcoat SF41.
2. Colour: As flooring
3. Profile: Radius cove.
4. Height: 150mm.
5. Top edge of skirting/ upstand: Retain with a stop bead
6. Transition with resin flooring: Seamless.

410A Resin skirtings/ upstands

1. Quality: Render grade resin.
   1.1. Cove mix: Coloured Quartz Size 0.3 – 1.2mm / Flowfast Cove Mix @ 3:1 by weight (quartz blend to match floor).
   1.2. Primer: Flowfast 101 Standard Primer with scatter of Natural Quartz 0.3-0.7 mm.
   1.3. Sealer: Two coats of Flowfast 304 Standard Seal.
2. Colour: Quartz blend to match floor.
3. Profile: Radius cove.
4. Height: To match existing.
5. Top edge of skirting/ upstand: Retain with a stop bead
6. Transition with resin flooring: Abutment at chase in slab.

420 Free edges of resin flooring

1. Transition to abutting floor finishes: Straight and smooth.
2. Retention of resin edges: Not required.

Ω End of Section

M20
Plastered/ rendered/ roughcast coatings

Clauses

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

Types of coating

160 Multicoat render systems

1. Description: External render system to RC concrete
2. Manufacturer: Sto Ltd or acceptable equivalent.
   2.1. Product reference: Sto Rend Flex Cote System or accepptable equivalent.
3. Substrate: RC concrete
4. Substrate preparation: StoPrim Fungal and any other pre-treatment as recommended by manufacturer following review of substrate to ensure suitability.
5. First undercoat: StoLevell Cote.
6. Second undercoat: StoArmat Classic plus G cement free reinforcing render.
7. Final coat: StoSilco K.
   7.1. Texture: K - Stipppled
   7.2. Thickness: 1.5mm
8. Sealant movement joints
   8.1. Beads: Sto-Movement Joint Bead PVC-U.
9. Reinforcing mesh: Sto Glass Fibre Mesh.
10. Colour/ Aggregate: TBC from standard Sto range - colour / finish to be confirmed through sampling to match M21/210.
11. Accessories: As recommended by manufacturer.
12. Other requirements: Follow all manufacturer recommendations for workmanship and installation. All installations of Sto Ltd materials in the UK to be carried out by and/or supervised by applicators registered by Sto Ltd

210 Gypsum plaster - repairs to existing

1. Description: Repairs to existing plaster finishes to match existing finish.
2. Substrate: As existing.
   2.1. Preparation: See workmanship clauses on preparation of substrate. Bonding agent recommended by plaster manufacturer.
3. Manufacturer: British Gypsum or acceptable equivalent.
4. Undercoats: To BS EN 13279-1.
   4.1. Product reference: Submit proposals
   4.2. Thickness (excluding dubbing out and keys): As required following manufacturer's recommendation on maximum coat thicknesses.
5. Final coat: Finish plaster to BS EN 13279-1.
   5.1. Product reference: Submit proposals.
   5.2. Thickness: 2-3 mm.
   5.3. Finish: Smooth. Paint finishes as M60.
6. Accessories: Extruded edge trims to be used to provide smooth and even edges/corners.
7. Heritage requirements: Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.
8. Other requirements: Refer to manufacturer's information for recommendations and details. All junction details to be reviewed and included for.

280 Gypsum plaster skim coat on plasterboard

1. Plasterboard: See 22 Series - Internal Partitions, 42 Series Internal Wall Finishes and refer to K10 work section.
   1.1. Preparation: Bonding agent recommended by plaster manufacturer.
2. Plaster: Board finish/ finish plaster to BS EN 13279-1.
   2.1. Manufacturer: British Gypsum or acceptable equivalent.
      2.1.1. Product reference: To manufacturer's recommendation
   2.2. Thickness: To manufacturer's recommendation
   2.3. Finish: Smooth.
3. Accessories: Extruded edge trims to be used to provide smooth and even edges/corners.
4. Other requirements: Refer to manufacturer's information for recommendations and details. All junction details to be reviewed and included for.

General

418 Control samples

1. Complete sample areas, being part of the finished work, in locations as follows: 5sqm area of each finish. Locations to be agreed with client represenative.

2. Once samples of coatings have been approved do not change type or proportion of constituent materials. Ensure that supplies and batch numbers of materials are sufficient to give consistent uniformity of colour. Ensure uniformity of texture during application.

Materials and marking of mortar

430 Ready-to-use cement gauged mortars

1. Time and temperature limitations: Use within limits prescribed by mortar manufacturer
    1.1. Retempering: Restore workability with water only within prescribed time limits.

495 Mixing

1. Render mortars (site prepared)
    1.1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
    1.2. Mix proportions: Based on damp sand. Adjust for dry sand.
    1.3. Lime:sand: Mix thoroughly. Allow to stand, without drying out, for at least 16 hours before using.
2. Mixes: Of uniform consistence and free from lumps. Do not retemper or reconstitute mixes.
3. Contamination: Prevent intermixing with other materials.

497 Cold weather

1. General: Do not use frozen materials or apply coatings on frozen or frost bound substrates.
2. External work: Do not apply when the air and / or substrate temperature is below 5 degrees centigrade. Maintain temperature of work above freezing until the material has fully set.
3. Internal work: Take precautions to enable internal coating work to proceed without detriment when air temperature is below 3°C.

Preparing substrates

510 Suitability of substrates

1. Soundness: Free from loose areas and significant cracks and gaps.
2. Cutting, chasing, making good, fixing of conduits and services outlets and the like: Completed.
3. Tolerances: Permitting specified flatness/ regularity of finished coatings.
4. Cleanliness: Free from dirt, dust, efflorescence and mould, and other contaminants incompatible with coatings.

551 Removal and renewal of existing plaster/ render

1. Location and extent: Agree, at least on a provisional basis, before work commences. Minimize extent of removal and renewal.

566 Removing defective existing plaster

1. Plaster for removal: Detached, soft, friable, badly cracked, affected by efflorescence or otherwise damaged.
    1.1. Hollow, detached areas: Obtain instructions
2. Stained plaster: Submit proposals
3. Removing defective plaster. Cut back to a square, sound edge.
4. Faults in substrate (structural deficiencies, damp, etc.): Submit proposals.

5. Cracks
   5.1. Fine hairline cracking/ crazing: Leave.
   5.2. Other cracks: Obtain instructions
6. Dust and loose material: Remove from exposed substrates and edges.

568 Existing damp affected plaster/ render

1. Plaster affected by rising damp: Remove to a height of 300 mm above highest point reached by damp or 1 m above dpc, whichever is higher.
2. Perished and salt contaminated masonry
   2.1. Mortar joints: Rake out.
   2.2. Masonry units: Submit proposals.
3. Faults in substrate (structural deficiencies, additional sources of damp, etc.): Submit proposals.
4. Drying out substrates: Establish drying conditions. Leave walls to dry for as long as possible before plastering.
5. Dust and loose material: Remove from exposed substrates and edges.

Backings/ beads/ joints

600 Additional framing supports for backings

1. Framing: Accurately position and securely fix to give full support to fixtures, fittings and service outlets.
2. Support board edges and perimeters: As recommended by board manufacturer to suit type and performance of board.

612 Joints in plasterboard backings

1. Ceilings
   1.1. Bound edges: At right angles to supports and with ends staggered in adjacent rows.
   1.2. Two layer boarding: Stagger joints between layers.
2. Partitions/ walls
   2.1. Vertical joints: Centre on studs. Stagger joints on opposite sides of studs.
      2.1.1. Two layer boarding: Stagger joints between layers.
   2.2. Horizontal joints
      2.2.1. Two layer boarding: Stagger joints between layers by at least 600 mm. Support edges of outer layer.
3. Joint widths (maximum): 3 mm.

630 Beads/ stops for internal use

1. Standard: In accordance with BS EN 13914-2, Table 2.
2. Material: Stainless steel to BS EN 13658-1

640 Beads/ stops generally

1. Location: External angles and stop ends except where specified otherwise.
2. Corners: Neat mitres at return angles.
3. Fixing: Secure, using longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with substrate.

3.1. Beads/ stops for external render: Fix mechanically.

4. Finishing: After coatings have been applied, remove surplus material while still wet, from surfaces of beads/ stops exposed to view.

659 Plasterboard joints

1. Joints and angles (except where coincident with metal beads). Reinforce with continuous lengths of jointing tape.

673 Plasterboard over conduits/ service chases

1. General: Prevent cracking over conduits and other services.
2. Services chased into substrate: Isolate from coating by covering with galvanized metal lathing, fixed at staggered centres along both edges.

Mouldings/ decorative plasterwork - Not Used

Internal plastering

710 Application generally

1. Application of coatings: Firmly and in one continuous operation between angles and joints. Achieve good adhesion.
2. Appearance of finished surfaces: Even and consistent. Free from rippling, hollows, ridges, cracks and crazing.

   2.1. Accuracy: Finish to a true plane, to correct line and level, with angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.

3. Drying out: Prevent excessively rapid or localized drying out.

715 Flatness/ surface regularity

1. Sudden irregularities: Not permitted.
2. Deviation of plaster surface: Measure from underside of a straight edge placed anywhere on surface.

   2.1. Permissible deviation (maximum) for plaster not less than 13 mm thick: 3 mm in any consecutive length of 1800 mm.

718 Junction of new plasterwork with existing

1. New plasterwork: Finish flush with original face of existing plasterwork to form a seamless junction.

742 Thin coat plaster

1. Preparation for plasters less than 2 mm thick: Fill holes, scratches and voids with finishing plaster.

777 Smooth finish

1. Appearance: A tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Avoid water brush, excessive trowelling and over polishing.

External rendering

810 Application generally

1. Apply coatings firmly to achieve good adhesion, and in one continuous operation between angles and joints.
2. Appearance of finished surfaces shall be even and consistent, free from rippling, hollows, ridges, cracks and crazing.
3. Finish to a true plane, to correct line and level, with angles and corners to right angles unless specified otherwise, and with reveals, heads, etc. plumb / level and square.
4. Prevent excessively rapid or localised drying out of cementitious coats.

820 Dubbing out rendering

1. Use levelling coat material - maximum thickness of any one coat: 12mm.
   Apply coatings firmly to achieve good adhesion. Allow each coat to set in accordance with Sto Ltd recommendations before the next is applied.

840 Undercoats generally

1. Rule to an even surface. Quality of application will have a direct bearing on the visual appearance of the finished render.
2. Undercoats on metal lath should be well worked into the interstices of the lath to ensure the maximum key is obtained.

870 Finish coat

1. Even texture to specification.

880 Curing and drying

1. General: Prevent premature setting and uneven drying of each coat.
2. Curing coatings: Keep each cementitious coat damp by covering with polyethylene sheet and/ or spraying with water if prevailing conditions are likely to result in accelerated drying.
   2.1. Curing period (minimum): Consult with Sto for recommendations and details.
   2.2. Final coat: Hang sheeting clear of the final coat.
3. Drying: Allow each coat to dry thoroughly, with drying shrinkage substantially complete before applying next coat.
4. Protection: Adequately protect newly applied external coatings against frost and rain in accordance with Sto Winter Working Policy. Consult with Sto Ltd for guidance on cleaning and protection.

900 Inspection of completed installation

1. As soon as possible after completion of the work and before removing scaffolding, carry out an inspection with the CA to identify any defects.

Ω End of Section

M21
Insulation with rendered finish

General/ system requirements

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

120 Survey of structural substrate

1. Timing: Before starting work covered in this section.
2. Objective: To confirm suitability for application of external wall insulation system on each elevation of the existing structural substrate.
3. Survey report: Submit, covering:
   - 3.1. The form and condition of the structural substrate.
   - 3.2. Condition of substrate.
   - 3.3. Form of the substrate (with particular regard to line / straightness).
   - 3.4. A schedule of repairs and/ or additional works necessary to render the substrate suitable to receive the system.
   - 3.5. A schedule of services, fixtures and fittings to be either removed or installed to facilitate correct installation of the system
   - 3.6. Proposals for treatment of thermal bridges that may occur as a result of installing the system, e.g. at door and window reveals, concrete floor edges, movement joints.
   - 3.7. A schedule of any extra adhesive / mechanical fixings required in addition to that included in the typical system construction.
   - 3.8. Any other relevant information.

180 Structural substrate

1. Description: Brickwork, blockwork and insitu concrete.
   - 1.1. Preparation
     - 1.1.1. Generally: Existing substrate should be clean, dry and free of loose coatings, dirt, algae, fungus or deleterious materials etc. Make good as necessary.
   - 1.2. Pretreatment

1.2.1. Insitu RC: To follow all latest manufacturer recommendations.

StoPrep Contact acrylic based adhesion intermediary for preparation of siliconised/glazed/smooth or low porosity surfaces, mixed with 20% Portland cement (BS 12) by weight and a small amount of clean water to aid workability. Apply to surface with a roller and allow to set/dry for a minimum of 24 hours before application of subsequent coats.
For subsequent cement free coatings, StoPrep Contact may be used straight from the packaging. Apply to surface with a roller and allow to set/dry for a minimum of 24 hours before application of subsequent coats.
Depending upon specific site conditions, there may be a requirement for surface pre-treatment(s) in addition or as an alternative, to any described above. In cases where the substrate is not as described above, please consult manufacturer for further advice.

1.2.2. Brickwork / blockwork: To follow all latest manufacturer recommendations.

StoPrim Micro penetrating silicone based primer, diluted 1:10 by volume with water applied by brush, roller or spray to friable, sanding or highly absorbent surfaces, or for consolidation of surfaces previously treated with StoPrim Fungal.

Depending upon specific site conditions, there may be a requirement for surface pre-treatment(s) in addition or as an alternative to any described above. In cases where the substrate is not as described above, please consult Sto Ltd for further advice.

210 External wall insulation render system

1. Description: A mechanically fixed externally insulated mineral fibre based façade system with supplementary adhesive / levelling bed installed onto a brickwork / blockwork and insitu RC substrate.
2. Manufacturer: Sto Ltd or acceptable equivalent.
3. System reference: Sto Therm Mineral K (Mech) or acceptable equivalent.
4. Support rails and brackets: ‘K’ System: StoProfile Start DRN 2.5 m long. Size of starter track to suit thickness of insulation.
   Sto-Aluminium Flexicurve Starter Track to radius.
   4.1. Sizes/ spacing: As manufacturer's recommendations.
   4.2. Method of fixing: As manufacturer's recommendations.
5. Insulation: Sto-Mineral Fibre Board (dual density).
   A1 Non-combustible in accordance with EN 13501-1.
   Thermal Conductivity 0.036 W/Mk to BS 3958-5: 1986 & DIN 52 612.
   Dual density: 140 / 115 kg/m³
   Minimum Compressive strength: 20 kN/m² @ 10% compression
6. Thickness: 120mm Mineral Fibre (DD) to achieve overall U-value of 0.3W/m2K. 1200mm x 600mm board size, square edged.
7. Method of fixing: As manufacturer recommendations. Installations will require a system fixing assessment with manufacturer to determine the fixing requirement(s). Contact manufacturer at next stage to discuss wind loadings for the project and arrange for a fixing assessment to be carried out.
8. Beads/ trims: As manufacturer recommendations for buildings with floor height greater than 18m.
9. Reinforcing coat: StoLevell Duo Plus calcium silicate based reinforcing coat. Thickness to be nominal 5mm ensuring the reinforcing mesh is fully embedded and a level surface is provided. Sto Primer (Putzgrund). Apply 1 full coat by brush or roller and allow to dry thoroughly.

10. Reinforcement: Sto-Glass Fibre Reinforcing Mesh and Sto-Armour Mesh.
11. Decorative finish: StoSilco cement free silicone resin render.
    StoSilco renders contain approximately 20% silicone resin content by mass of the binder. StoSilco QS – can be used in temperatures from +1°C to +10°C (max. +15°C) and relative humidity of up to 95%. Do not mix standard and QS grade of the same material type on the same elevation.
    11.1. Thickness: 1.5mm
    11.2. Texture: K – Stippled
    11.3. Finish colour / reference: TBC from standard Sto range - colour / finish to be confirmed through sampling.

310 Design

1. Complete the detailed design of the system and associated features shown on the drawings to meet the requirements of this specification.

320 Integrity

1. The installation must be weathertight under all anticipated conditions. Consult with manufacturer for specific details and relating to particular conditions.
2. The installation must be capable of resisting all dead loads and design live loads, including impact and wind loads, and accommodate all thermal movements without damage.
3. Render systems may not be applied to horizontal or near-horizontal surfaces. To enable the integrity of the system to be maintained at parapets / wall heads, it will be necessary to install copings or cappings. Render systems may not be continued over wall heads / parapets without the provision of suitable protection.

330 Impact loading

1. Resistance to hard body impact shall be:
   Category I - 10 Joules using 1 layer of Sto-Armour Mesh + 1 layer of Sto Glass Fibre Reinforcing Mesh.

   The above category is defined in the European Assessment Document 040083-00-0404 (formerly ETAG 004) and correspond to the degrees of exposure in use. They do not include an allowance for acts of vandalism.

340 Wind loading

1. Wind Loading should be calculated to BS EN 1991 - 1 - 4: 2005 + A1: 2010. In accordance with BS EN 1990: 2002, it is recommended that a load factor of 1.5 be applied to the calculated values to determine the ultimate wind suction load(s) to be resisted by the system.
2. To enable economic design, accurate calculations indicating negative wind loads must be presented to manufacturer at the earliest possible opportunity, in order to enable a wind load / fixing assessment to be carried out.

360 Samples

1. Procedure: Submit samples/ examples of designated items for approval. Obtain approval before starting work.
   Keep approved samples on site for the duration of the contract for inspection/ comparison purposes.
2. Designated items: Clause 210.

380 Uniformity of colour and texture of coating mixes

1. Type/ proportion of constituent materials: Unchanged once samples of coatings have been approved.
2. Supplies of materials: Sufficient to give consistent and uniform colour and texture.

Installation

410 Installation

1. Installation to be carried out by a contractor registered with manufacturer. Contractor to be a member of INCA, The Insulated Render and Cladding Association and subscribe to the INCA guideline that 75% of the work force, whether directly employed or subcontract, have been certified as being competent in the installation of External Wall Insulation Systems, by an INCA approved assessor.
2. Installation shall be made strictly in accordance with manufacturer instructions. Reference should be made to the project specification, method statement, drawings, technical data sheets, and all other relevant literature. Consult with manufacturer for latest literature.

420 Adverse weather

1. Do not use materials that are or have been frozen. Do not apply materials to frost bound surfaces.
2. Do not apply when the air or surface temperature is below 5 °C. Do not apply in direct sunlight or to surfaces recently exposed to direct sunlight.
   Maintain temperature of the work above freezing until materials have fully hardened.
3. Protect newly applied surfaces against rain and snow by covering when precipitation occurs.
4. Remove and replace any materials damaged by rain or frost.

440 On-site pull-out tests on fixing pins

1. Objective: To prove suitability of structural substrate and determine size and number of fixings required.
2. Pull-out test load: As manufacturer recommendations.
3. Notice: Give notice of testing timetable to allow CA the opportunity to be present.
   3.1. Period of notice: Five working days

460 Cleanliness

1. Carefully protect all existing work and approaches using suitable boards, sheets, etc. Clean off any droppings from finished work immediately.

470 Render thickness gauges

1. Render thickness gauges or other suitable means must be used to ensure the specified coating thickness.

480 Curing

1. Allow applied materials to dry out thoroughly before applying subsequent coats.
2. Take all necessary precautions to prevent newly applied materials from drying out too rapidly.

490 Construction/ movement joint installation

1. General: Consult with manufacturer to verify joint requirement and type.
   Form joints accurately to manufacturer's recommendation and in locations as required. If modifications to any joint location or design are necessary on site, agree revisions with CA before proceeding.
2. Construction / contraction joints: It may be possible – depending upon the degree and direction of movement expected - to extend the system over construction / contraction joints within the building structure.
3. Movement joints: Replicate all movement / expansion / deflection / structural joints within the building structure.

520 Supports/ sleeves for services/ fittings

1. Provide secure supports within the insulation for soil and rainwater pipe brackets, aerials, cameras, lighting, signage and the like in locations shown on drawings. Consult with manufacturer for fixing methods / details.

530 Sealant joints

1. Locations: At all interfaces between insulation / render and dissimilar materials.
2. Sealant: Type recommended by system manufacturer
3. Joints: Formed in accordance with section Z22 and system manufacturer's recommendations using any necessary joint fillers, backing strips, etc.

550 Inspection of completed installation

1. Timing: As soon as possible after completion of the work and before removing scaffolding.
2. Format: Carry out inspection with Contract Administrator to identify any defects.
3. Notice for inspection (minimum): Five working days
4. Submit : Description of inspection and remedial works carried out.

Ω End of Section

M40
Stone/ concrete/ quarry/ ceramic tiling/ mosaic

Clauses

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

Types of tiling/ mosaic

110A Tiling to walls - WCs

1. Tiles: Unglazed porcelain tiles
   - 1.1. Manufacturer/ Supplier: Domus or acceptable equivalent
     - 1.1.1. Product reference (Option 1): Uniseries or acceptable equivalent.
     - 1.1.2. Product reference (Option 2): Spectrum or acceptable equivalent.
   - 1.2. Colour: Allow for 4 colours - to be agreed with client and architect.
   - 1.3. Finish: Unglazed (Opt 1) / Soft (Opt 2)
   - 1.4. Size: 146 x 146mm (Opt 1) / 295 x 295 (Opt 2)
   - 1.5. Thickness: 8mm (Opt 1) / 8.5mm(Opt 2)
2. Background/ Base: 12.5mm Glasroc H Tile Backer Board installed to manufacturers recommendations as K10.
   - 2.1. Preparation: As manufacturer's recommendations
3. Intermediate substrate: Schluter DitraMat.
4. Bedding: Adhesive bed - notched trowel and buttering method, as clause 651
   - 4.1. Reinforcement: Not applicable
   - 4.2. Adhesive to BS EN 12004: As manufacturer's recommendations
5. Joint width: 2-3mm
6. Grout: Mapei Ultracolour Plus or acceptable equivalent. Colour to compliment tile colour choice - allow for four colours.
   - 6.1. Type/ classification: CG2A
   - 6.2. Admixture: Polymer modified
7. Accessories: Edge profiles where needed as P20/450A.

110B Tiling to walls - Cleaner's Cupboards

1. Tiles: Wall tiling to cleaner's cupboards.
    1.1. Manufacturer/ Supplier: Johnson Tiles or acceptable equivalent
        1.1.1. Product reference: Prismatics Electric or acceptable equivalent.
    1.2. Colour: Allow for 4 colours - to be agreed with client and architect.
    1.3. Finish: Gloss
    1.4. Size: 150 x 150mm
    1.5. Thickness: 6.5mm
2. Background/ Base: 12.5mm Glasroc H Tile Backer Board installed to manufacturers recommendations as K10.
    2.1. Preparation: As manufacturer's recommendations
3. Intermediate substrate: Schluter DitraMat.
4. Bedding: Adhesive bed - notched trowel and buttering method, as clause 651
    4.1. Reinforcement: Not applicable
    4.2. Adhesive to BS EN 12004: As manufacturer's recommendations
5. Joint width: 2-3mm
6. Grout: Mapei Ultracolour Plus or acceptable equivalent. Colour to compliment tile colour choice - allow for four colours.
    6.1. Type/ classification: CG2A
    6.2. Admixture: Polymer modified
7. Accessories: Edge profiles where needed as P20/450A.

110C Tiling to servery joinery unit

1. Tiles: Craquele glazed porcelain tiles
    1.1. Manufacturer/ Supplier: Domus or acceptable equivalent
        1.1.1. Product reference: Abiquiu or acceptable equivalent.
    1.2. Colour: DCAB10.
    1.3. Finish: Custom Plain Finish.
    1.4. Size: 200 x 50mm
    1.5. Thickness: 7mm
2. Background/ Base: Welcome space joinery as N10/100C.
    2.1. Preparation: As manufacturer's recommendations
3. Bedding: Adhesive bed - notched trowel and buttering method, as clause 651
    3.1. Reinforcement: Not applicable
    3.2. Adhesive to BS EN 12004: As manufacturer's recommendations
4. Joint width: 2-3mm
5. Grout: Mapei Ultracolour Plus or acceptable equivalent. Colour TBC to compliment tile colour choice.
    5.1. Type/ classification: CG2A
    5.2. Admixture: Polymer modified
6. Accessories: Edge profiles where needed as P20/450A.

110D Tiling to reception desk shroud

1. Tiles: Glazed porcelain tiles to reception desk shroud (Option 1 TBC)
    1.1. Manufacturer/ Supplier: Domus or acceptable equivalent
        1.1.1. Product reference: Meld or acceptable equivalent.
    1.2. Colour: DMLD10
    1.3. Finish: Custom Plain Finish.
    1.4. Size: 240 x 60mm
    1.5. Thickness: 10mm
2. Background/ Base: Reception desk shroud as N10/100A
    2.1. Preparation: As manufacturer's recommendations
3. Bedding: Adhesive bed - notched trowel and buttering method, as clause 651
    3.1. Reinforcement: Not applicable
    3.2. Adhesive to BS EN 12004: As manufacturer's recommendations
4. Joint width: 2-3mm
5. Grout: Mapei Ultracolour Plus or acceptable equivalent. Colour TBC to compliment tile colour choice.
    5.1. Type/ classification: CG2A
    5.2. Admixture: Polymer modified
6. Accessories: Edge profiles where needed as P20/450A.

115 Existing Travertine Stone Wall Tiles

1. Description: Existing Travertine Stone Walls to heritage areas.
   Clean and repair according to C40 and C41 and all recommendations in PAYE report (HCC-PAYE-ZZ-ZZ-RP-C-00002)
2. Cleaning methodology
    2.1. Apply one application of Wexa multi-purpose cleaner, agitate with a non-scratch nylon pad. Wash down using clean cold water.
    2.2. Apply one application of Vulpex soap in dilution, agitate with a non-scratch nylon pad. Wash down using clean cold water.
    2.3. Apply marble wax.
3. Repair Methodology
    3.1. Dismantle displaced wall cladding, salvage and set aside for re-use as per drawing HCC-HBA-CC-01-DR-A-420502
    3.2. Undertake further high-level inspection of wall and column cladding once suitable working access is made available. Record any areas of loose and displaced cladding, remove and re-fix as required.
    3.3. Infill redundant screw holes using coloured two-part resin, for larger holes indent with sections of marble cut from removed cracked units.
    3.4. Rake out and re-grout missing grout to cladding.
    3.5. Reassemble stone where required to existing location
4. Where replacement of broken tiles is required stone to match stone type and grain of existing stone. To be approved by client / conservation officer / Local Authority. Contractor to submit samples for approval.

116 Existing Verte de Fre Marble Wall Tiles

1. Description: Existing green Verte de Fre Marble to Council Chamber
   Dismantle, Clean and repair according to C40 and C41 and all recommendations in PAYE report (HCC-PAYE-ZZ-ZZ-RP-C-00002)
2. Dismantling methodology
   - 2.1. Existing panels location to be recorded/surveyed and marked.
   - 2.2. All paneling to be dismantled and reassembled in existing location to allow insulation and services to be installed. Specialist contractor to review methodology and agree with conservation officer, Architect and Local Authority.
3. Cleaning methodology
   - 3.1. Apply one application of Wexa multi-purpose cleaner, agitate with a non-scratch nylon pad. Wash down using clean cold water.
   - 3.2. Apply one application of Vulpex soap in dilution, agitate with a non-scratch nylon pad. Wash down using clean cold water.
   - 3.3. Apply marble wax.
4. Repair methodology
   - 4.1. Undertake further high-level inspection of wall and column cladding once suitable working access is made available. Record any areas of loose and displaced cladding, remove and re-fix as required
   - 4.2. Infill redundant screw holes using coloured two-part resin, for larger holes indent with sections of marble cut from removed cracked units.
   - 4.3. Rake out and re-grout missing grout to cladding.

117 Existing Marble Floor Tiles

1. Description: Existing marble Floor tiles
   Clean and repair according to C40 and C41 and all recommendations in PAYE report (HCC-PAYE-ZZ-ZZ-RP-C-00002)
2. Cleaning methodology
   - 2.1. Carry out cleaning to marble flooring and terrazzo staircases to help determine the full extent of defects and enable repairs and or replacement materials to be matched as close as practical.
   - 2.2. Sweep of floor to remove dusty and debris. Apply Chemical stripper to latex where necessary and allow to react.
   - 2.3. Scrape off softened latex and wash away using mild detergent.
   - 2.4. Use mild detergent to clean off remainder of floor. Allow floor to dry out. Apply sealer.
3. Repair methodology
   - 3.1. Uplift severely cracked floor tiles and replace with in-tact floor tiles located at the rear of lobby & outside of glazed screen as per drawing HCC-HBA-ZZ-00-DR-A-430100. Specialist contractor to carry out additional investigations to confirm stone tiles can be successfully lifted and submit method statement.
     - 3.1.1. Carry out dimensional survey of fractured units to be replaced.
     - 3.1.2. Verify units to be relocated are a dimensional match.
     - 3.1.3. Undertake test removal of flooring to redundant area.
     - 3.1.4. Cut through joints using a thin section diamond blade.
     - 3.1.5. As required carefully breakout redundant material around the unit to expose a clean edge.

3.1.6. Drill in and breakout under unit to create a lift point for prising off bedding mortar.

3.1.7. Where required use a vacuum lifter to lift unit up and away from bed

3.1.8. Clean off mortars and set aside for re-use.

3.2. Rake out and re-grout missing grout to marble flooring

4. Severely cracked floor tiles to be replaced (refer also to section 3.1 above) with new tiles to match existing in size. Marble type/grain/colour to match the lighter tone of existing (accepting the matching of the existing colour gradient is likely to be near impossible). Samples to be provided for the approval by the client team / conservation officer.

   Refer to HCC-HBA-ZZ-00-DR-A-430100 for replacement location

118 Existing Blue Soffit Tiles

1. Description: Existing blue soffit tiles to west wing first floor.

   Specialist subcontractor to carry out condition survey of existing and advise on refurbishment. Refer to drawing -210353 for details.

General

210 Suitability of backgrounds/ bases

1. Background/ base tolerances: To permit specified flatness/ regularity of finished surfaces given the permissible minimum and maximum thickness of bedding.
   - Suitable and sufficiently strong to receive and support a tiled finish.
   - Suitable for the conditions to which it will be exposed.
   - Fully dry and free from contamination, laitance etc.
2. New background drying times (minimum)
   2.1. Concrete walls: 6 weeks.
   2.2. Brick/ block walls: 6 weeks.
   2.3. Rendering: 2 weeks.
   2.4. Gypsum plaster: 4 weeks.
3. New base drying times (minimum)
   3.1. Concrete slabs: 6 weeks.
   3.2. Cement:sand screeds: 3 weeks.

250 Samples

1. General: Submit representative samples of the following: all tile types of each colour including grouts and trims.

260 Control samples

1. General: Complete sample areas, being part of finished work, in locations as follows: 2sqm of each tile type.
   1.1. Approval of appearance: Obtain before proceeding.

Preparation

310 Existing backgrounds/ bases generally

1. Efflorescence, laitance, dirt and other loose material: Remove.

2. Deposits of oil, grease and other materials incompatible with the bedding: Remove.
3. Tile, paint and other nonporous surfaces: Clean.
4. Wet backgrounds: Dry before tiling.

380 New plaster

1. Plaster: Dry, solidly bedded, free from dust and friable matter.
2. Plaster primer: Apply if recommended by adhesive manufacturer.

390 Tile Backer Boards / Plasterboard backgrounds

1. Boards: Dry, securely fixed and rigid with no protruding fixings and face to receive decorative finish exposed.
2. Other requirements: -To be fixed in accordance with the manufacturer's recommendations.
   - Must be clean, dry, rigid and well-braced.
   - Consult the board manufacturer regarding the suitability of the boards for the intended conditions to which it will be subjected.

400 Backgrounds

1. Boards: Dry, securely fixed and rigid with no protruding fixings.
2. Surfaces to be tiled: Seal or prime if recommended by adhesive manufacturer.

Fixing

510 Fixing generally

1. Colour/ shade: Unintended variations within tiles for use in each area/ room are not permitted.
   1.1. Variegated tiles: Mix thoroughly.
2. Adhesive: Compatible with background/ base. Prime if recommended by adhesive manufacturer.
3. Use of admixtures with cementitious adhesives: Only admixtures approved by adhesive manufacturer.
4. Cut tiles: Neat and accurate.
5. Fixing: Provide adhesion over entire background/ base and tile backs.
6. Final appearance: Before bedding material sets, make adjustments necessary to give true, regular appearance to tiles and joints when viewed under final lighting conditions.
7. Surplus bedding material: Clean from joints and face of tiles without disturbing tiles.

530 Setting out

1. Joints: True to line, continuous and without steps.
   1.1. Joints on walls: Horizontal, vertical and aligned round corners.
   1.2. Joints in floors: Parallel to the main axis of the space or specified features.
2. Cut tiles: Minimize number, maximize size and locate unobtrusively.
3. Joints in adjoining floors and walls: Align.
4. Joints in adjoining floors and skirtings: Align.
5. Movement joints: Where locations are not indicated, submit proposals.
6. Setting out of M40/111 to be agreed with subcontractor.

550 Flatness/ Regularity of tiling/ mosaics

1. Sudden irregularities: Not permitted.
2. Deviation of surface: Measure from underside of a 2 m straightedge with 3 mm thick feet placed anywhere on surface. The straightedge should not be obstructed by the tiles and no gap should be greater than 6 mm, i.e. a tolerance of: ± 3 mm.

560 Level of tiling across joints

1. Deviation (maximum) between tile surfaces either side of any type of joint
   1.1. 1 mm for joints less than 6 mm wide.
   1.2. 2 mm for joints 6 mm or greater in width.

570 Mortar bedding

1. Bedding mix
   1.1. Cement: Portland to BS EN 197-1, type CEM I/42.5.
   1.2. Sand for walls: Fine aggregate to BS EN 13139.
      1.2.1. Grading designation: 0/2 (CP or MP) category 2 fines.
   1.3. Sand for floors: Fine aggregate to BS EN 13139.
      1.3.1. Grading designation: 0/4 (MP) category 1 fines and between 20%-66% passing a 0.5 sieve.
2. Batching: Select from:
   2.1. Batch by weight.
   2.2. Batch by volume: Permitted on the basis of previously established weight:volume relationships of the particular materials. Use accurate gauge boxes. Allow for bulking of damp sand.
3. Mixing: Mix materials thoroughly to uniform consistence. Use a suitable forced action mechanical mixer. Do not use a free fall type mixer.
4. Application: At normal temperatures use within two hours. Do not use after initial set. Do not retemper.

578 Crack control reinforcement

1. Type to BS 4483: Submit proposals
2. Installation: Place centrally in depth of bed. Lap not less than 100 mm and securely tie together with steel wire.
3. Corners: Avoid a four layer build at corners.

651 Adhesive bed – notched trowel and buttering method (walls)

1. Application: By floated coat of adhesive to dry background in areas of about 1 m² Comb surface. Follow all manufacture recommendations.
2. Tiling: Apply thin even coat of adhesive to backs of dry tiles. Fill any ribbed, deep keyed or button profiles. Press tiles firmly onto float coat.
3. Finished adhesive thickness: 3 mm or within the range allowed by the adhesive manufacturer.

Movement joints/ grouting/ completion

875 Grouting

1. Sequence: Grout when bed/adhesive has set sufficient to prevent disturbance of tiles.
2. Joints: 6 mm deep (or depth of tile if less). Free from dust and debris.
3. Grouting: Fill joints completely, tool to profile, clean off surface. Leave free from blemishes.
   3.1. Profile: Flush
4. Polishing: When grout is hard, polish tiling with a dry cloth.

885 Coloured grout

1. Staining of tiles: Not permitted
2. Evaluating risk of staining: Apply grout to a few tiles in a small trial area. If discoloration occurs apply a protective sealer to tiles and repeat trial.

Performance - Not Used

Ω End of Section

M41
Terrazzo tiling/ in situ terrazzo

Types of terrazzo

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Terrazzo tiling to Welcome Space and Anexe Ground Floor

1. Description: Terrazzo tiling to slope in welcome space and Anexe and Link block ground floor.

   Refer to Architect's 34 series drawings for location and associated substrates.
2. Tiles
   - 2.1. To BS EN 13748-1 for internal use.
   - 2.2. Manufacturer: InOpera or acceptable equivalent.
     - 2.2.1. Product reference: Ca D'oro or acceptable equivalent.
   - 2.3. Size: 60 x 60cm
   - 2.4. Slip resistance: R10 min./ +36 PVT for wet areas.
     Allow for increased slip resistance value in sloped areas as (PVT to be increased by 5) per BS 8300-22018.
3. Substrate:
   - 3.1. Raised Access floor in new built: Tilling system to be applied over the stress relieving board (UZIN Multimoll Top 4) and Knauf Gifa FHB boards (thickness TBC with manufacturer) over the raised access floor system (Refer to clauses K41/130A for raised access floor). Raised access floor system to be rigid in areas where tile is applied.
   - 3.2. Slope in Welcome area: Tilling system to be applied over screed. Tiles in slope to receive treatment to increase slip resistance in this area.
   - 3.3. Preparation for bedding: As manufacturer recommendations.
4. Adhesive: Agglofix S2 adhesive
5. Grout:: Ardex Flex FS grout
6. Grout type / Classification: C1E S2
7. Accessories: As required to complete installation
8. Joint width: 3 mm - to be agreed with Architect
9. Finishing

9.1. Grinding: Not required, finish as laid

10. Other requirements: Strip movement joints, as required; adhesive is combed with a suitable notched trowel in one direction (over stress relieving board) to avoid trapping air. Tiles should be buttered edge to edge with adhesive thus ensuring a solid bed system is achieved

120 Existing in situ terrazzo

1. Description: Existing Terrazzo floor and stair landings
   Clean and repair according to C40 and C41 and all recommendations in PAYE report (HCC-PAYE-ZZ-ZZ-RP-C-00002)
2. Cleaning Methodology
   2.1. Carry out cleaning to terrazzo flooring staircases to help determine the full extent of defects and enable repairs and or replacement materials to be matched as close as practical.
   2.2. Sweep of dust and debris. Apply Wexa multipurpose cleaner and agitate with a non-scratch nylon pad. Wash down with clean cold water.
   2.3. Apply Vulpex Soap in dilution, agitate with a non-scratch nylon pad. Wash down with clean cold water
   2.4. Allow to dry and apply sealer.
3. Repair Methodology
   3.1. To provide increased integrity and strength to resin fracture repairs include representative aggregates. Note expansion, contraction, movement within the structure may cause the repaired fracture to open. Monitor and include under future maintenance and repair.
   3.2. Clean out open fractures in terrazzo landings and infill with coloured resin and marble chippings to help blend in the repair.
   3.3. Cut back large spalls to terrazzo tread nosing and repair using resin and marble chippings.
   3.4. Use a combination of coloured 2-part resin mixed with marble chippings to provide a representative match for the original material.
   3.5. Apply resin proud of the surface and allow to cure.
   3.6. Following curing the resin, spin down flush with the surface using fine graded pads.

Generally

210 Suitability of substrates

1. General: Suitably dry and clean for specified bedding method.
2. Existing substrates: Free from loose areas and significant cracks and gaps.
3. New in situ concrete substrates: Allow for initial shrinkage:
   3.1. Air drying after curing: (minimum) 6 weeks .
   3.2. Other methods: Submit proposals.

211 Suitability of Existing Bases and Conditions

1. Before commencing work the subcontractor must complete a test area and confirm through the Main Contractor that bases will, after the specified preparation, be suitable to receive the specified materials. Installation of materials will be taken as further acceptance of the suitability of the bases and also of the conditions within any given area.

230 Samples

1. General: Submit representative samples of the following: Tile type M41/110

235 Control samples

1. General: Complete sample areas, being part of the finished work, and obtain approval of appearance before proceeding.
2. Terrazzo type: M41/110 and M41/120
    2.1. Location/ Size: 5sqm for M41/110 / one example of each reapir type for M41/120 - location to be agreed on site with architect.

Laying

305 Laying generally

1. Tiles: Fully adhered to bedding.
2. Cut tiles: Neat and accurate.
3. Joints: True to line, continuous and without steps.
    3.1. Joints in floors: Parallel to main axis of the space or specified features.
4. Dividing strips/ Movement joints: If locations are not indicated, submit proposals.
5. Special setting out: As shown in floor finish drawings.
6. Other Requirements:: Cut tiles / slabs to be kept to the minimum, as large as possible and in unobtrusive locations. Joints in walls and floors to be in alignment.
   Where positions of movement joints are not specified, they are to be agreed on site.
   Before laying tiles obtain approval of setting out:

330 Level of finished floor

1. Permissible deviations from datum: +/- 3mm
   The levels of flooring are to be such as to achieve the details and relationships with adjacent components / finishes shown on the drawings and to meet the requirement of Class SR1 regularity.

340 Flatness/ Surface regularity of finished floor

1. Sudden irregularities: Not permitted.
2. Deviation (maximum) of surface measured from underside of a 2 m straightedge, between points of contact, and placed anywhere on the surface: 3 mm.

345 Level of unground tiling across joints

1. Deviations (maximum) between surfaces either side of any type of joint
    1.1. Joints less than 6 mm wide: 1 mm.
    1.2. Joints 6 mm wide or greater: 2 mm.

410 Grouting

1. Grout: Flexible cement based grout, fully compatible with all contact materials and as agreed sample, to be accepted by the Architect.
   Colour: To match agreed sample, to be accepted by the Architect.
   In advance of any installation work, check the potential risk of staining by applying grout to tiles in a trial area; if discolouration occurs apply a protective sealer to the tiles and repeat the trial. If staining persists, obtain recommendations from the grout and terrazzo manufacturers and submit to the Architect.
   Grout tiling as soon as possible after bedding has sufficiently set to prevent disturbance of tiles.
   Ensure that joints are free from dust and debris and that grout in joints is not less than 6mm

deep.
Fill joints completely, tool to the profile agreed for the Control Sample, clean off surface and leave free of blemishes.

425 Checking Tile Adhesion

1. As work proceeds and before the bedding has set, carefully remove random tiles as directed and in the presence of the CA to verify that there is specified adhesion. Remove the initial adhesive, butter the removed tile with fresh adhesive and refix.

446 Movement and Control Joint Profiles

1. Description: Movement joint locations and types to be confirmed during Stage 4 detailed design.
2. Manufacturer: Schlüter-Systems Ltd
   2.1. Product reference: Schlüter®-DILEX-Range
   2.2. Colour: To be agreed with Architect
3. Joint width: To be agreed with Architect
4. Installation: Extend through terrazzo and bedding to base. Set to required finished floor level.
   4.1. Fixing: TBC
   4.2. Installation: Centre over joints in base/background.

520 Grinding

1. Mechanical grinding: Use wet process. Dry process permitted only where it is not practicable to use wet process.
2. Coarse grinding: Remove all surface grout, correct unevenness and remove lipping between tiles/ slabs.
   2.1. Residue and dust: Remove. Wash and rinse surface.
3. Fill with matching grout.
4. Polishing: Use wet process.
   4.1. Residue and dust: Remove. Wash and rinse surface and leave to dry naturally.
5. Protection: Cover flooring and keep free from traffic for at least two days.

Completion

525 Slip resistance testing

1. Test: To BS 7976-1, -2 and -3.
2. Report: Submit. Include:
   2.1. Name and address of testing authority.
   2.2. Date of tests.
   2.3. Location of test.
   2.4. Temperatures of test surfaces.
   2.5. The slider material used on the pendulum tester.
   2.6. Slip resistance values in wet and dry conditions.

Ω End of Section

M50
Rubber/ plastics/ cork/ lino/ carpet tiling/ sheeting

Types of covering

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Existing cork floor tiles

1. Description: Existing cork flooring to council chamber gallery.

   Refurbishment method to be developed and validated by specialist subcontractor.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Preparation: - Replace any damaged tiles with new tiles to match existing.
   - Vacuum to remove the dust and abrasives on the floor.
   - Clean using Finitec Surface Preparation or acceptable equivalent.
   - Wipe out all residues and rinse the surface 2 to 3 times with warm water.
   - Repeat as required to remove all residues.
   - Lightly sand surface to unpolish surface and remove any lipping.

   Ensure floor is acclimatized to its end-use environment, well sanded, dry, and free from sanding dust, oil, wax and other contamination.
3. Finish: As M60/162
4. Other requirements: Provide protection to the floor from all other works.

130A Carpet tiling - Generally

1. Location: As shown in floor finish drawings.
2. Base: Screed as M10 / raised access floor as K41 with additional marine plywood layer as clause 560 subject to location.

   2.1. Preparation: As manufacturer's recommendations.

3. Carpet tiles
   3.1. Manufacturer: Interface or acceptable equivalent
      3.1.1. Product reference: CE100 or acceptable equivalent.
   3.2. Style: Tufted patterned structured loop pile
   3.3. Material: 100% recycled solution dyed yarn
   3.4. Backing: CQuest™Bio
   3.5. Classification
      3.5.1. Standard: To BS EN 1307.
      3.5.2. Level of use class: To BS EN 1307, class 33.
      3.5.3. Luxury rating class: LC1.
   3.6. Size: 500 x 500 mm.
   3.7. Colour and pattern: TBC by architect and client representative - allow for three colours from standard range.
   3.8. Flammability: To BS EN 13501-1, Bfl s1.
   3.9. Height: 3mm.
   3.10. Impact sound reduction: To ISO 10140-3, 25 dB.
   3.11. Thickness: 6.4mm.
   3.12. Total weight: 3900 g/m².
   3.13. Tuft density: 181,346 per m².
   3.14. Environmental: As Interface datasheet
4. Method of laying: Non-directional, in strict accordance with manufacturer's installation recommendations
5. Other requirements: Maintenance method must be demonstrated to ensure not only appearance retention but also to leave carpet in hygienic condition.

130B Carpet tiling - Council Chamber Motif

1. Location: Council Chamber Motif as shown in floor finish drawings.
2. Base: Screed as M10 / raised access floor as K41 with additional marine plywood layer as clause 560 subject to location.
   2.1. Preparation: As manufacturer's recommendations.
3. Carpet tiles
   3.1. Manufacturer: Interface or acceptable equivalent
      3.1.1. Product reference: Composure or acceptable equivalent.
   3.2. Style: Tufted Patterned Structured Loop Pile
   3.3. Material: 100% Solution Dyed Nylon contains recycled content
   3.4. Backing: CQuest™Bio
   3.5. Classification
      3.5.1. Standard: To BS EN 1307.
      3.5.2. Level of use class: To BS EN 1307, class 33.
      3.5.3. Luxury rating class: LC1.
   3.6. Size: 500 x 500 mm
   3.7. Colour and pattern: Olive or acceptable equivalent. TBC by architect and client representative

3.8. Flammability: To BS EN 13501-1, Bfl s1.

3.9. Height: 4.3mm.

3.10. Impact sound reduction: To ISO 10140-3, 25 dB.

3.11. Thickness: 6mm.

3.12. Total weight: 3704 g/m².

3.13. Tuft density: 160,480 per m².

3.14. Environmental: As Interface datasheet

4. Method of laying: Carpet Tiles to be cut as per proposed motif in strict accordance with manufacturer's installation recommendations
5. Other requirements: Maintenance method must be demonstrated to ensure not only appearance retention but also to leave carpet in hygienic condition.

150A Rubber flooring - General

1. Description: Rubber flooring
2. Location: Refer to 43 series drawings
3. Base: Screed as M10 / raised access floor as K41 with additional marine plywood layer as clause 560 subject to location.

3.1. Preparation: As recommended by manufacturer.

4. Flooring roll: Homogenous Rubber to BS EN 1817

4.1. Evidence of compliance: Submit.

4.2. Reaction to fire classification: Class Cfl-s1.

4.3. Material: Resilient floor covering made of rubber according to EN 1817:2020

4.4. Manufacturer: Nora Flooring Systems UK Ltd or acceptable equivalent.

4.4.1.Product reference: Norament 926 Pado or acceptable equivalent.

4.5. BS EN ISO 10874 class: 23/32/41

4.6. Slip potential

4.6.1.To DIN 51130: R10

4.7. Recycled content: Submit proposals

4.8. Width: 1004 x 1004mm

4.9. Thickness: 3.5mm

4.10. Colour/ pattern: TBC by Architect and client represenative. Allow for three colours from standard range.

5. Smoothing compound: Nora L-1000 as clause M50/462A as required.
6. Adhesive (and primer if recommended by manufacturer): Nora AC-100 or Nora PU-102 other manufacturer recommended.
7. Seam welding: As clause 680 – Cold weld only and mandatory
8. Accessories: Skirtings as P20.
9. Finishing: As clause 810 and 820 and all manufacturer's recommendations. Ensure that the surface is cleaned upon completion and that in terms of sealing and subsequent maintenance, the manufacturer's instructions are complied with in order to avoid invalidating the product warranty.
10. Other requirements: Moisture testing to be performed prior to the installation of any floor covering. The only acceptable test method is the use of a calibrated hygrometer sealed to the surface of the substrate as instructed in BS 8203:2001+A1:2009.

- Acceptable relative humidity values to install floorcoverings should be =75% rh.
- Substrates that are found to still contain a relative humidity >75%rh should either be given sufficient time to dry to acceptable values or an application of an epoxy based DPM should be provided. These are applied to a sound, dust and contaminate free substrate to control and regulate the passage of excess moisture. Further guidance should be sought from the DPM manufacture or Nora® flooring systems.

150B Rubber flooring - Anti-static

1. Description: Rubber flooring - Electrostatically Dissipative
2. Location: Refer to 43 series drawings
3. Base: Screed as M10 / raised access floor as K41 with additional marine plywood layer as clause 560 subject to location.
4. Flooring roll: Homogenous Rubber to BS EN 1817
   - 4.1. Evidence of compliance: Submit.
   - 4.2. Electrical behaviour: Resistance to EPA Ground 106 – 9 x 107 Ohm
     Body Voltage Generation < 10 V
     Resistance to Earth 106 – 9 x 107 Ohm
     Insulation resistance ≥ 1 x 105 Ohm
   - 4.3. Reaction to fire classification: Class Cfl-s1.
   - 4.4. Material: Resilient floor covering made of rubber according to EN 1817:2020
   - 4.5. Manufacturer: Nora Flooring Systems UK Ltd or acceptable equivalent.
     - 4.5.1. Product reference: Noraplan Signa ESD or acceptable equivalent.
   - 4.6. BS EN ISO 10874 class: 34/43
   - 4.7. Slip potential
     - 4.7.1. To DIN 51130: R9
   - 4.8. Recycled content: Submit proposals
   - 4.9. Width: 1.22m
   - 4.10. Thickness: 2mm
   - 4.11. Colour/ pattern: TBC by Architect and client representative.
5. Smoothing compound: Nora L-1000 as clause M50/462A as required.
6. Adhesive (and primer if recommended by manufacturer): Nora ED-120 or other manufacturer recommended
7. Seam welding: As clause 680 – Cold weld only and mandatory
8. Accessories: Skirtings as P20.
9. Finishing: As clause 810 and 820 and all manufacturer's recommendations. Ensure that the surface is cleaned upon completion and that in terms of sealing and subsequent maintenance, the manufacturer's instructions are complied with in order to avoid invalidating the product warranty.
10. Other requirements: Moisture testing to be performed prior to the installation of any floor covering. The only acceptable test method is the use of a calibrated hygrometer sealed to the surface of the substrate as instructed in BS 8203:2001+A1:2009.
    - Acceptable relative humidity values to install floorcoverings should be =75% rh.
    - Substrates that are found to still contain a relative humidity >75%rh should either be given sufficient time to dry to acceptable values or an application of an epoxy based DPM should be provided. These are applied to a sound, dust and contaminate free substrate to control and regulate the passage of excess moisture. Further guidance should be sought from the DPM manufacture or Nora® flooring systems.

150C Rubber flooring - Slip resistant

1. Description: Anti-slip rubber flooring
2. Location: Refer to 43 series drawings.
3. Base: Screed as M10 / raised access floor as K41 with additional marine plywood layer as clause 560 subject to location.
4. Flooring roll: Homogenous Rubber to BS EN 13845.
    - 4.1. Evidence of compliance: Submit.
    - 4.2. Reaction to fire classification: Class Cfl-s1.
    - 4.3. Material: Resilient floor covering made of rubber according to EN 1817:2020
    - 4.4. Manufacturer: Nora Flooring Systems UK Ltd or acceptable equivalent.
        - 4.4.1. Product reference: Noraplan UltraGrip or acceptable equivalent.
    - 4.5. BS EN ISO 10874 class: 23/34/43
    - 4.6. Slip potential
        - 4.6.1. To DIN 51130: R11
        - 4.6.2. Slip resistance value (SRV) (minimum)/ Pendulum test value (PTV) (minimum) to BS 7976-1, -2 and -3: 36+ wet and dry
    - 4.7. Recycled content: 20%
    - 4.8. Width: 1.22m
    - 4.9. Thickness: 2mm
    - 4.10. Colour/ pattern: TBC by Architect and client representative. Allow for three colours from standard range.
5. Smoothing compound: Nora L-1000 as clause M50/462A as required.
6. Adhesive (and primer if recommended by manufacturer): Nora AC-100 or other manufacturer recommended
7. Seam welding: As clause 680.
8. Accessories: Skirtings as P20.
9. Finishing: As clause 810 and 820 and all manufacturer's recommendations. Ensure that the surface is cleaned upon completion and that in terms of sealing and subsequent maintenance, the manufacturer's instructions are complied with in order to avoid invalidating the product warranty.
10. Other requirements: Moisture testing to be performed prior to the installation of any floor covering. The only acceptable test method is the use of a calibrated hygrometer sealed to the surface of the substrate as instructed in BS 8203:2001+A1:2009.
    - Acceptable relative humidity values to install floorcoverings should be =75% rh.
    - Substrates that are found to still contain a relative humidity >75%rh should either be given sufficient time to dry to acceptable values or an application of an epoxy based DPM should be provided. These are applied to a sound, dust and contaminate free substrate to control and regulate the passage of excess moisture. Further guidance should be sought from the DPM manufacture or Nora® flooring systems.

195 Floor finish materials specification

1. Minimum BRE 'Green Guide to Specification Online' rating: Refer to project BREEAM performance requirements

General requirements

210 Workmanship generally

1. Base condition after preparation: Rigid, dry, sound, smooth and free from grease, dirt and other contaminants.
2. Finished coverings: Accurately fitted, tightly jointed, securely bonded, smooth and free from air bubbles, rippling, adhesive marks and stains.

220 Samples

1. Covering samples: Before placing orders, submit representative sample of each type.

230 Control samples

1. General: Complete areas of finished work in approved locations as follows, and obtain approval of appearance before proceeding: 15sqm of each flooring type - location to be agreed on site .

251A Layout – seams in roll materials

1. Set out sheet coverings so that seams and cross seams are kept to a minimum. Cross seams should be avoided wherever possible and should only be present where room dimensions exceed the roll length. Agree setting out for all sheeting types before ordering.

251B Layout – tile materials

1. Set out tile coverings so that joints are kept to a minimum. Either the tile or a joint should be centrally located along the length and breadth of the room to provide equally sized cuts to the perimeter walls as best as possible. Small or undersized cuts to the perimeter must be avoided where possible.

270 Extra material

1. Provision of extra material: At completion, hand to Employer extra material of each type of covering to extent of 5%.

310 Marking

1. Ensure that materials are delivered to site in original packing, clearly marked with batch number.

320 Storage

1. Store materials in a clean, warm, dry, well ventilated place. Keep in original packing until conditioning commences. Rolls must be stored stood on end.

330 Commencement

1. Required condition of works prior to laying materials
    1.1. Building is weathertight and well dried out.
    1.2. Wet trades have finished work.
    1.3. Paintwork is finished and dry.
    1.4. Conflicting overhead work is complete.
    1.5. Floor service outlets, duct covers and other fixtures around which materials are to be cut are fixed.
    1.6. Store materials in a clean, warm, dry, well ventilated place. Keep in original packing until conditioning commences. Rolls must be stored stood on end.

2. Notification: Submit not less than 48 hours before commencing laying.
3. Working areas must be segregated from other operatives and signage erected advising operatives to 'Stay Out'.

340 Conditioning

1. Prior to laying: Condition materials by unpacking and separating in spaces where they are to be laid. Maintain resilient flooring rolls in an upright position.
2. Conditioning time and temperature (minimum): As recommended by manufacturer with time extended by a factor of two for materials stored or transported at a temperature of less than 10°C immediately prior to laying.

350 Environment

1. Temperature and humidity: Before, during and after laying, maintain approximately at levels which will prevail after building is occupied.
2. Ventilation: Before during and after laying, maintain adequate provision.
3. Other: As manufacturer requirements for each flooring type.

360 Floors with underfloor heating

1. Commencement of laying: Not before a period of 48 hours after heating has been turned off.
2. Post laying start up of heating system: Slowly return heating to its operative temperature not less than 48 hours after completing laying.

Preparing bases

410 New bases

1. Suitability of bases and conditions within any area: Commencement of laying of coverings will be taken as acceptance of suitability.

430 New wet laid bases

1. Base drying aids: Not used for at least four days prior to moisture content testing.
2. Base moisture content test: Carry out in accordance with BS 5325, Annexe A or BS 8203, Annexe A.
    2.1. Locations for readings: In all corners, along edges, and at various points over area being tested.
3. Commencement of laying coverings: Not until all readings show 75% relative humidity or less.

440 Substrates to receive thin coverings

1. Trowelled finishes: - A uniform, smooth surface free from trowel marks and other surface imperfections/contaminations, and suitable to receive the specified floor finish.
   - Protection from construction traffic
   - Allowance for making good by application of a smoothing compound by and to the satisfaction of the flooring subcontractor in the event of the surface being unsuitable due to inadequate finishing or protection.

460 Smoothing/ levelling underlayment compound

1. Manufacturer: Submit proposals to meet floor manufacturer recommendations.
    1.1. Product reference: Submit proposals to meet floor manufacturer recommendations.

462A Smoothing/ levelling underlayment compound - Nora

1. General: Prior to undertaking any flooring works, best practice denotes that all surfaces are lightly abraded to provide a contaminant free, cementitious base with a fine and smooth texture.
2. Primer: To a smooth, permanently dry and mechanically prepared base which is free of dust, debris and all contaminates liable to impair adhesion, prime the surface with an even continuous coat of Nora PRP 101 surface primer with a short pile roller and allow to fully dry as per manufacturer's instructions.
3. Smoothing compound: To a cured contaminate free surface primer, apply Nora L-1000 to a thickness of not less than 3 mm and allow to fully dry as per manufacturer's instructions.
    3.1. Allow to dry fully before laying floor covering.
    3.2. Primers may be needed – refer to technical data.

560 Plywood underlay

1. To be flooring grade in compliance with BS:8203 – Annex A. Such as Hanson's SP101 or similar and equivalent.
2. Thickness: Minimum 6mm.
3. Sheet size: 2400mm x 1200mm
4. Ensure that existing floorboards are securely fixed and acceptably level. Remove or fill any gross irregularities. Punch in any protruding fasteners.
5. Lay sheets with cross joints staggered such that no joint within the base and underlay is coincident and with a 0.5-1 mm gap between sheets.
6. Fix with ring shanked nails, divergent staples or screws. Perimeter fixings should be located 12mm in from the edge and spaced at no more than 100mm distances. Field fixings should be located equally spaced and no more than 150mm distances.

Laying coverings

610 Setting out tiles

1. Method: Set out from centre of area/ room, so that wherever possible:
    1.1. Tiles along opposite edges are of equal size.
    1.2. Edge tiles are more than 50% of full tile width.

620 Colour consistency

1. Finished work in any one area/ room: Free from banding or patchiness.

640 Adhesive fixing generally

1. Adhesive type: As specified, as recommended by covering/ underlay, manufacturer or as approved.
2. Primer: Type and usage as recommended by adhesive manufacturer.
3. Application: As necessary to achieve good bond.
4. Finished surface: Free from trowel ridges, high spots caused by particles on the substrate, and other irregularities.

641 Electrostatic discharge

1. Electrostatic discharges are dissipated via the top layer and conductive adhesive to a copper strip for potential equalisation.

Approximately 1.5m of copper tape strip, extending centrally into the area from an earthing point, is affixed for every 40 m² of dissipative noraplan® ED Tile covering installations. This 1.5m of copper tape is enough dissipate the electrostatic discharges over 40m2 as the conductive adhesive assists in discharging the charge to the earthing point.
For larger areas follow manufacturer recommendations.

650 Seams

1. Patterns: Matched.
2. Joints: Tight without gaps.
3. Installation: - Place the material in position on the floor, allowing a minimum of 50mm each end overlapping at least 15 mm at joints.
   - Cut-in material along joints with a nora seam cutter or equivalent system to provide tightly abutted joint.
   - Fold (do not roll) the material back along half its length. When adhesive is ready the adhesive bed and carefully feed the joint tightly into the adjacent joint.

680 Seam welding coverings

1. In most instances, a neat, uniform and tightly fitted seam will not require any seam jointing.
2. Joint sealing is mandatory for:
   1. Areas which will receive intensive wet cleaning
   2. Areas where significant standing water are anticipated
   3. Areas where coved skirtings (either site formed or pre-formed) are present
   4. When installed on top of acoustic and/or thermal underlay.
3. Commencement: Do not commence welding of coverings until a minimum of 24 hours after laying or until adhesive has
   completely set.
4. Joints: Neat, smooth, strongly bonded, flush with finished surface.
   - Cut groove, 3 mm wide by 2/3 the depth of material.
   - Cut evenly along each joint using a p-shaped groover, mechanical/electric groover or similar tool.
5. Weld type: Colour matched with weld type as manufacturer's guidance subject to location.

720 Doorways

1. Joint location: On centre line of door leaf.

731A Sealant

1. Manufacturer: Nora or acceptable equivalent.
   1.1. Product reference: Nora Joint Sealing Compound or acceptable equivalent.
2. Colour: To match corresponding floor finish colour.
3. Execution: To manufacturer's recommendations.
   48 hours must elapse after installation before mastic is applied.

740 Edgings and cover strips

1. Locations: At all thresholds including junctions between different floor coverings and interfaces with existing floor finishes. As required to complete construction.
2. Manufacturer: Gradus, or acceptable equivalent
   2.1. Product reference: Submit proposals

3. Material/ finish: Mill Finish Aluminium .
4. Fixing: Fixing: As manufacturers recommendations. Secure, level and with mitred joints with edge of covering gripped.

   Use matching fasteners where exposed to view. Adjusted to suit thickness of covering with continuous packing strips of hardboard or plywood.

780 Trafficking after laying

1. Covering types: All flooring types.
2. Traffic free period: As recommended by manufacturer.

Completion

810 Cleaning generally

1. Remove all scrap, dust and dirt. Carefully remove adhesive and other marks from coverings and adjacent surfaces, using approved cleaning agents and methods.

820 Finishing

1. General: Follow manufacturer's recommendations.

870 Protection

1. Follow manufacturer's cleaning recommendations.
2. Ensure any material with printed information on one face is laid with printed face uppermost.

880 Waste

1. Spare covering material: Retain suitable material for patching. On completion submit pieces for selection. Hand over selected pieces to Employer.

Ω End of Section

M60
Painting/clear finishing

Coating systems

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.
5. All paints and varnishes to meet the BREAAM emission levels criteria for VOC emissions.

110A Emulsion paint - Durable

1. Description: Water based durable matt emulsion paint to internal plasterboard walls in highly trafficked areas.
2. Manufacturer: Dulux or acceptable equivalent.
   2.1. Product reference: Dulux Trade Diamond Matt or acceptable equivalent.
   2.2. Colour: In addition to white, allow 5no. (non standard) colours - to be agreed with Architect.
3. Surfaces: Plasterboard walls and ceilings as shown in wall finishes / design drawings.
   3.1. Preparation: As manufacturer's recommendations. Ensure surfaces are clean and dry.
4. Initial coats: As manufacturer's recommendations to unpainted surfaces.
5. Undercoats: As manufacturer's recommendations.
6. Finishing coats: As manufacturer's recommendations.
   - Number of coats: 2
   - Additional coat may be required for deeper colours
7. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each colour, to ensure compatibility of products and quality of finish.
   Allow for 3no. colour option samples test for each colour type to be selected by Architect.

110B Emulsion paint - Standard

1. Description: Water based durable matt emulsion paint to internal plasterboard walls in low-traffic areas and ceilings.
2. Manufacturer: Dulux or acceptable equivalent.
   2.1. Product reference: Dulux Trade Vinyl Matt or acceptable equivalent.

2.2. Colour: In addition to white, allow 5no. (non standard) colours - to be agreed with Architect.

3. Surfaces: Plasterboard walls and ceilings as shown in wall finishes / design drawings.
   3.1. Preparation: As manufacturer's recommendations. Ensure surfaces are clean and dry.
4. Initial coats: As manufacturer's recommendations to unpainted surfaces.
5. Undercoats: As manufacturer's recommendations.
6. Finishing coats: As manufacturer's recommendations.
   - Number of coats: 2
   - Additional coat may be required for deeper colours
7. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each colour, to ensure compatibility of products and quality of finish.
   Allow for 3no. colour option samples test for each colour type to be selected by Architect.

110C Emulsion paint - WC and Showers

1. Description: Water based moisture resistant, soft sheen emulsion paint to internal plasterboard walls and ceiling in WCs and showers. **Final product TBC with M60/115**
2. Manufacturer: Coat Paints or acceptable equivalent.
   2.1. Product reference: COAT soft sheen emulsion or acceptable equivalent.
   2.2. Colour: In addition to white, allow 5no. (non standard) colours - to be agreed with Architect.
3. Surfaces: Plasterboard walls and ceilings as shown in wall finishes / design drawings.
   3.1. Preparation: As manufacturer's recommendations. Ensure surfaces are clean and dry.
4. Initial coats: As manufacturer's recommendations to unpainted surfaces.
5. Undercoats: As manufacturer's recommendations.
6. Finishing coats: As manufacturer's recommendations.
   - Number of coats: 2
   - Additional coat may be required for deeper colours
7. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each colour, to ensure compatibility of products and quality of finish.
   Allow for 3no. colour option samples test for each colour type to be selected by Architect.

150 Eggshell paint

1. Description: Eggshell paint to skirting boards / woodwork
2. Manufacturer: Dulux or acceptable equivalent
   2.1. Product reference: Dulux Trade Diamond Satinwood or acceptable equivalent
   2.2. Colour: In addition to white, allow 5no. (non standard) colours - to be agreed with Architect.
3. Surfaces: Various, as described above
   3.1. Preparation: As manufacturer's recommendations. Ensure surfaces are clean and dry.
4. Initial coats: As manufacturer's recommendations.
5. Undercoats: As manufacturer's recommendations.
6. Finishing coats: As manufacturer's recommendations.
   - Number of coats: 2
   - Additional coat may be required for deeper colours
7. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each colour, to ensure compatibility of products and quality of finish.
   Allow for 3no. colour option samples test for each colour type to be selected by Architect.

160 Timber lacquer - New Elements

1. Description: Timber lacquer to new timber elements
2. Manufacturer: Osmo or acceptable equivalent.
    2.1. Product reference: Osmo Polyx-Oil Clear Matt (subject to location as recommended by supplier) or acceptable equivalent.
3. Surfaces: Varies, as described above.
    3.1. Preparation: As per manufacturers recommendations.
4. Initial coats: As recommended by manufacturer
5. Finishing coats: As recommended by manufacturer
6. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each surface type to ensure compatibility of products and quality of finish.

161 Timber varnish - Repair

1. Description: Varnish to existing repaired timber elements.
2. Manufacturer: Morrells or acceptable equivalent (subject to validation from specialist polisher).
    2.1. Product reference: As recommended by specialist subcontractor - variations of colour and sheen subject to location.
3. Surfaces: Varies, as described above.
    3.1. Preparation: As per manufacturers recommendations.
4. Initial coats: As recommended by manufacturer
5. Finishing coats: As recommended by manufacturer
6. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each surface type to ensure compatibility of products and quality of finish.

162 Cork floor lacquer

1. Description: Two component, waterborne coating for all existing cork floors.
2. Manufacturer: Bona or acceptable equivalent.
    2.1. Product reference: Bona Traffic HD Matt or acceptable equivalent subject to confirmation to suitability by specialist subcontractor.
3. Surfaces: Existing cork floor as M50/110.
    3.1. Preparation: As per manufacturers recommendations.
4. Initial coats: As recommended by manufacturer
    4.1. Number of coats: As recommended by manufacturer
5. Finishing coats: As recommended by manufacturer
    5.1. Number of coats: As recommended by manufacturer
6. Sample / benchmark test: Carry out initial sample test (min 1sqm) for each surface type to ensure compatibility of products and quality of finish.

170 Masonry paint

1. Description: Paint to blockwork walls.
2. Manufacturer: Dulux or acceptable equivalent.
    2.1. Product reference: Dulux Trade Weathershield Paint or acceptable equivalent.
    2.2. Colour : White

3. Surfaces: As shown in wall finishes drawings.
    3.1. Preparation: As manufacturer's recommendations.
4. Initial coats: As manufacturer's recommendations.
5. Undercoats: As manufacturer's recommendations.
6. Finishing coats: As manufacturer's recommendations.
7. Sample / benchmark: Carry out initial sample test (min 1sqm) to ensure compatibility of products and quality of finish.

175 Dustproofing sealers

1. Description: Concrete wall dust sealer to exposed back -of-house internal concrete surfaces and blockwork where not painted.
2. Manufacturer: Watco UK Ltd or acceptable equivalent.
    2.1. Product reference: Wallseal or acceptable equivalent.
3. Composition: Water-based acrylic.
4. Colour: Clear.
5. Surfaces: Concrete / blockwork.
    5.1. Preparation: As manufacturer's recommendations.
6. Initial coats: As manufacturer's recommendations.
7. Undercoats: As manufacturer's recommendations.
8. Finishing coats: As manufacturer's recommendations.
9. Sample / benchmark test: Carry out initial sample test (min 1sqm)to ensure compatibility of products and quality of finish.

195 Special coating to exposed concrete surfaces

1. Description: Concrete mineral paint special coating
2. Manufacturer: Keim Mineral Paints or acceptable equivalent.
    2.1. Product reference: Keim Concretal Lasur or acceptable equivalent.
3. Surfaces: Exposed public facing concrete surfaces.
    3.1. Preparation: Refer to specialist manufacturers guidance for each location.
    Ensure areas are free from all surface contaminants, sound, dry and dust free
4. Decoration Generally: To specialist manufacturer's recommendations
    - A two or three coat Keim Concretal Lasur system depending on the opacity/coverage required.
    - Site trials are to be conducted to determine the amount of dilution and number of coats required to obtain the desired opacity.
    - Test area size and location to be agreed with Architect prior to being undertaken.
5. Initial coats: Keim Concretal Dilution as a primer coat.
    5.1. Number of coats: As recommended by manufacturer
6. Undercoats: As recommended by manufacturer
    6.1. Number of coats: As recommended by manufacturer
7. Finishing coats: Keim Concretal Lasur
    7.1. Number of coats: Applied as recommended by specialist manufacturer.

196 Special coating to hollow pot slab

1. Description: Concrete mineral paint special coating to hollow pot slab
2. Manufacturer: Keim Mineral Paints or acceptable equivalent.
   2.1. Product reference: Keim Innostar system or acceptable equivalent.
3. Surfaces: Exposed public facing concrete surfaces and ceramic blocks
   3.1. Preparation: Refer to specialist manufacturers guidance for each location. Ensure areas are free from all surface contaminants, sound, dry and dust free.
4. Initial coats: Any cracks or where there is a need to equalise the surface should be filled using Keim Dolomitspachtel, a ready to use silicate mineral filler, brush or trowel applied to a pre-wetted surface and dressed back to the required level. Any new/repaired areas must be allowed to dry out for a minimum period of 15 days prior to the application of Keim Mineral Paints
   4.1. Number of coats: one coat of Keim Innostar applied by air-less spray
5. Undercoats: As recommmended by manufacturer
   5.1. Number of coats: As recommended by manufacturer
6. Finishing coats: Keim Innostar
   6.1. Number of coats: One coat - as recommended by manufactuerer

Generally

205 General requirements

1. For all decorative paints/ primers and associated products, comply with the following requirements for VOC content:
   1.1. European standards: BS EN 13300:2001 referred to the requirements of Decorative Paints Directive 2004/42/CE.
   1.2. Testing standards: BS EN ISO 11890-2:2006

215 Handling and storage

1. Coating materials: Deliver in sealed containers, labelled clearly with brand name, type of material and manufacturer's batch number.
2. Materials from more than one batch: Store separately. Allocate to distinct parts or areas of the work.

220 Compatibility

1. Coating materials selected by contractor
   1.1. Recommended by their manufacturers for the particular surface and conditions of exposure.
   1.2. Compatible with each other.
   1.3. Compatible with and not inhibiting performance of preservative/fire-retardant pretreatments.

280 Protection

1. 'Wet paint' signs and barriers: Provide where necessary to protect other operatives and general public, and to prevent damage to freshly applied coatings.

300 Control samples

1. Sample areas of finished work: Carry out, including preparation, as follows:

2. Types of coating Location
   2.1. Min. 1 sqm of all finish types. Allow for minimum five different colours for testing.
3. Approval of appearance: Obtain before commencement of general coating work.

320 Inspection by coating manufacturers

1. General: Permit manufacturers to inspect work in progress and take samples of their materials from site if requested.

321 Inspection of work stages

1. Programme for inspections: Submit as follows:
2. Types of coating Inspection at completion of
   2.1. All finish types
3. Inspection: Give prior notice when each stage is ready for inspection.

Preparation

400 Preparation generally

1. Standard: In accordance with BS 6150.
2. Refer to any pre-existing CDM Health and Safety File.
3. Refer to CDM Construction Phase Plan where applicable.
4. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
5. Preparation materials: Types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
6. Substrates: Sufficiently dry in depth to suit coating.
7. Efflorescence salts: Remove.
8. Dirt, grease and oil: Remove. Give notice if contamination of surfaces/ substrates has occurred.
9. Surface irregularities: Remove.
10. Joints, cracks, holes and other depressions: Fill flush with surface, to provide smooth finish.
11. Dust, particles and residues from preparation: Remove and dispose of safely.
12. Water based stoppers and fillers
    12.1. Apply before priming unless recommended otherwise by manufacturer.
    12.2. If applied after priming: Patch prime.
13. Oil based stoppers and fillers: Apply after priming.
14. Doors, opening windows and other moving parts
    14.1. Ease, if necessary, before coating.
    14.2. Prime resulting bare areas.

420 Fixtures and fittings

1. Removal: Before commencing work remove: Coverplates, grilles, and other surface mounted fixtures or any necessary fixtures and fittings where insitu protection is not feasible.
2. Replacement: Refurbish as necessary, refit when coating is dry.

425 Ironmongery

1. Removal: Before commencing work: Remove ironmongery from surfaces to be coated.
2. Replacement: Refurbishment as necessary; refit when coating is dry.

430 Existing ironmongery

1. Refurbishment: Remove old coating marks. Clean and polish.

440 Previously coated surfaces generally

1. Preparation: In accordance with BS 6150, clause 11.5.
2. Contaminated or hazardous surfaces: Give notice of:
    2.1. Coatings suspected of containing lead.
    2.2. Substrates suspected of containing asbestos or other hazardous materials.
    2.3. Significant rot, corrosion or other degradation of substrates.
3. Suspected existing hazardous materials: Prepare risk assessments and method statements covering operations, disposal of waste, containment and reoccupation, and obtain approval before commencing work.
4. Removing coatings: Do not damage substrate and adjacent surfaces or adversely affect subsequent coatings.
5. Loose, flaking or otherwise defective areas: Carefully remove to a firm edge.
6. Alkali affected coatings: Completely remove.
7. Retained coatings
    7.1. Thoroughly clean to remove dirt, grease and contaminants.
    7.2. Gloss-coated surfaces: Provide key.
8. Partly removed coatings
    8.1. Additional preparatory coats: Apply to restore original coating thicknesses.
    8.2. Junctions: Provide flush surface.
9. Completely stripped surfaces: Prepare as for uncoated surfaces.

451 Previously coated surfaces – blast cleaning

1. Risk assessment and method statement: Prepare, and obtain approval before commencing work if blast cleaning proposed.
2. Operatives
    2.1. Trained/ experienced in blast cleaning.
    2.2. Submit evidence of training/ experience on request.
3. Dust and nuisance: Minimize.

456 Previously coated surfaces – burning off

1. Risk assessment and method statement: Prepare, and obtain approval before commencing work if blast cleaning proposed.
2. Adjacent areas: Protect from excessive heat and falling scrapings.
3. Exposed resinous areas and knots: Apply two coats of knotting.
4. Removed coatings: Dispose of safely.

461 Previously coated wood

1. Degraded or weathered surface wood: Take back to provide suitable substrate.
2. Degraded substrate wood: Repair with sound material of same species.
3. Exposed resinous areas and knots: Apply two coats of knotting.

471 Preprimed wood

1. Areas of defective primer: Take back to bare wood and reprime.

481 Uncoated wood

1. General: Provide smooth, even finish with arrises and moulding edges lightly rounded or eased.
2. Heads of fasteners: Countersink sufficient to hold stoppers/fillers.
3. Resinous areas and knots: Apply two coats of knotting.

490 Previously coated steel

1. Defective paintwork: Remove to leave a firm edge and clean bright metal.
2. Sound paintwork: Provide key for subsequent coats.
3. Corrosion and loose scale: Take back to bare metal.
4. Residual rust: Treat with a proprietary removal solution.
5. Bare metal: Apply primer as soon as possible.
6. Remaining areas: Degrease.

500 Preprimed steel

1. Areas of defective primer, corrosion and loose scale: Take back to bare metal. Reprime as soon as possible.

511 Galvanized, sherardized and electroplated steel

1. White rust: Remove.
2. Pretreatment: Apply one of the following:
    2.1. Mordant solution to blacken whole surface.
    2.2. Etching primer recommended by coating system manufacturer.

521 Uncoated steel – manual cleaning

1. Oil and grease: Remove.
2. Corrosion, loose scale, welding slag and spatter: Remove.
3. Residual rust: Treat with a proprietary removal solution.
4. Primer: Apply as soon as possible.

531 Uncoated steel – blast cleaning

1. Oil and grease: Remove.
2. Blast cleaning
    2.1. Atmospheric conditions: Dry.
    2.2. Abrasive: Suitable type and size, free from fines, moisture and oil.
    2.3. Surface finish: To BS EN ISO 8501-1, preparation grade Sa 2½.

3. Primer: Apply as soon as possible and within four hours of blast cleaning.

541 Uncoated aluminium/ copper/ lead

1. Surface corrosion: Remove and lightly key surface.
2. Pretreatment: Etching primer if recommended by coating system manufacturer.

560 Uncoated concrete

1. Release agents: Remove.

570 Uncoated masonry/ Rendering

1. Loose and flaking material: Remove.

580 Uncoated plaster

1. Nibs, trowel marks and plaster splashes: Scrape off.
2. Overtrowelled ‘polished’ areas: Key lightly.

590 Uncoated plasterboard

1. Depressions around fixings: Fill with stoppers/ fillers

622 Organic growths

1. Dead and loose growths and infected coatings: Scrape off and remove from site.
2. Treatment biocide: Apply appropriate solution to growth areas and surrounding surfaces.
3. Residual effect biocide: Apply appropriate solution to inhibit re-establishment of growths.

631 Previously painted window frames

1. Paint encroaching beyond glass sight line: Remove.
2. Loose and defective putty: Remove.
3. Putty cavities and junctions between previously painted surfaces and glass: Clean thoroughly.
4. Finishing
    4.1. Patch prime, reputty as necessary, and allow to set.
    4.2. Seal and coat as soon as fully set.

640 External pointing to existing frames

1. Defective sealant pointing: Remove.
2. Joint depth: Approximately half joint width; adjust with backing strip if necessary.
3. Sealant
    3.1. Manufacturer: Submit proposals
        3.1.1. Product reference: Submit proposals.
    3.2. Preparation and application: As section Z22.

645 Sealing of internal movement joints

1. General: To junctions of walls and ceilings with architraves, skirtings and other trims.
2. Sealant: Waterborne acrylic.
    2.1. Manufacturer: Submit proposals.

2.1.1. Product reference: Submit proposals.

2.2. Preparation and application: As section Z22.

651 Existing gutters

1. Dirt and debris: Remove from inside of gutters.
2. Defective joints: Clean and seal with suitable jointing material.

Application

711 Coating generally

1. Application standard: In accordance with BS 6150, clause 9.
2. Conditions: Maintain suitable temperature, humidity and air quality during application and drying.
3. Surfaces: Clean and dry at time of application.
4. Thinning and intermixing of coatings: Not permitted unless recommended by manufacturer.
5. Overpainting: Do not paint over intumescent strips or silicone mastics.
6. Priming coats
   6.1. Thickness: To suit surface porosity.
   6.2. Application: As soon as possible on same day as preparation is completed.
7. Finish
   7.1. Even, smooth and of uniform colour.
   7.2. Free from brush marks, sags, runs and other defects.
   7.3. Cut in neatly.
8. Doors, opening windows and other moving parts: Ease before coating and between coats.

720 Priming joinery

1. Preservative treated timber: Retreat cut surfaces with two flood coats of a suitable preservative before priming.
2. End grain: Coat liberally allow to soak in, and recoat.

730 Workshop coating of concealed joinery surfaces

1. General: Apply coatings to all surfaces of components.

731 Site-coating of concealed joinery surfaces

1. General: After priming, apply additional coatings to surfaces that will be concealed when fixed in place.

740 Concealed metal surfaces

1. General: Apply additional coatings to surfaces that will be concealed when component is fixed in place.

751 Staining wood

1. Primer: Apply if recommended by stain manufacturer.
2. Application: Apply in flowing coats and brush out excess stain to produce uniform appearance.

760 Varnishing wood

1. First coat: As recommended by manufacturer.
   1.1. Brush well in and lay off avoiding aeration.
2. Subsequent coats: Provide light key and smooth along the grain between coats.

770 External doors

1. Bottom edges: Prime and coat before hanging doors.

780 Bead glazing to coated wood

1. Before glazing: Apply first two coats to rebates and beads.

800 Glazing

1. Etched, sand blasted and ground glass: Treat or mask edges before coating to protect from contamination by oily constituents of coating materials.

810 Water-repellent

1. Application: Liberally flood surface, giving complete and even coverage.

Ω End of Section

M61
Intumescent coatings for fire protection of steelwork

Protective coating systems

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Intumescent coating to steelwork

1. Description: All unprotected structural steelwork to be intumescent protected to meet structural and fire requirements. To be applied in all areas not encased as K10/255.
   Detailed design to be carried out by consultant team during detailed design in Stage 4.
   Where visible, final finish to be high decorative (as clause 460) matt paint finish to RAL colour TBC.

   To be installed to manufacturer's requirements to meet performance. Ensure suitable overlap with encased steelwork to maintain continuous fire protection to Fire Consultant's requirements.

Performance and general requirements

205 Validation of materials

1. Project-specific evaluation of intumescent coating materials
   1.1. Standard: In accordance with BS EN 16623, clause 4.
   1.2. Test results: Submit on request.

210 Working procedures

1. Standard: In accordance with BS EN 16623.
2. Give notice: Before commencing surface preparation and coating application.
3. Quality control: Record project specific procedures for surface preparation and coating application.

215 Working conditions

1. General: Maintain manufacturer's recommended temperature, humidity and air quality conditions during application and drying.
2. Surface condition: Clean and dry at time of application.

220 Applicator's personnel

1. Operatives: Trained/ experienced in anticorrosive and intumescent coatings.
2. Evidence of training/ experience: Submit on request.

260 Control samples

1. General: Carry out sample areas of finished work as follows: to each different area of steelwork.
2. Approval of appearance: Obtain before commencement of general application.

270 Inspection

1. Permit intumescent manufacturer to
    1.1. Inspect work in progress.
    1.2. Inspect quality control records.
    1.3. Take dry film thickness and other measurements.
    1.4. Take samples of products.
2. Intumescent manufacturer's inspection reports: Submit without delay.

Preparation of surfaces - Not Used

Application of castings - Not Used

Application of coatings

440 Basic finish

1. Definition: Reasonably smooth and even. Orange peel, other texture, minor runs and similar minor defects are acceptable.

450 Normal decorative finish

1. Definition: Good standard of cosmetic finish generally, when viewed from a distance of 5 m or more. Minor orange peel or other texture is acceptable.

460 High decorative finish

1. Definition: High standard of evenness, smoothness and gloss when viewed from a minimum distance of 2 m.

Completion

530 Records of intumescent application

1. On completion of intumescent work, submit
    1.1. Accurate surface preparation, coating and intumescent application records.
    1.2. Fire resistance certificates.
    1.3. Intumescent manufacturer's recommendations for maintenance and overcoating.

Ω End of Section

N10
General fixtures/ furnishings/ equipment

Products

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

100A Purpose-made - Reception desk

1. Description: Bespoke reception desk with recess for wheelchair access. Refer to drawings for location and design intent. Solid composite reception desk surfaces with integrated lighting and laminate storage. Integrated hinged access panel and fold up section of desktop.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP and security requirements, induction loop etc,
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Desktop: 50mm thick solid seamless surface desktop, with raised countertop section. Cable tray on bracket fitted to underside of desktop. Allow for holes for wiring for feature lighting.
   - 4.1. Manufacturer: Corian
   - 4.2. Product reference: Rain Cloud (Standard finish)
   - 4.3. Edge: Bullnose for raised section.
     Pencil rounded for standard level section.
5. Counterfront: Two options for counterfront and side panels with recess for wheelchair access, and setback skirting. Brass channel shadow gap between counterfront and top.
   - 5.1. Option 1: Tiles as M40/110D.
   - 5.2. Option 2: Brass-Look Laminate Sheet
     - 5.2.1. Manufacturer: Homapal
     - 5.2.2. Product reference: Alu Brushed Bronzeton Scratch Resistance Matt (451 SRM)
6. Storage: Laminate storage to under countertop. Allow cupboards and drawers as per drawings.
   - 6.1. Manufacturer: Abet Laminati
     - 6.1.1. Product reference: Standard Range. Colours vary - allow for two colours.
7. Skirting: Brass skirting

7.1. Manufacturer: Homapal

7.1.1. Product reference: Alu Brushed Bronzeton Scratch Resistance Matt (451 SRM)

8. Timber legs: Solid timber (European oak TBC). Rounded as shown on drawings.
9. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
10. Desktop support / construction frame:: Carcass - concealed MDF, softwood frame detail by subcontractor, fully concealed support fixings as required to ensure structural integrity of all components.
    Countertop support concealed with mild steel section, brackets and fixings, as recommended by subcontractor.
11. Timber: To BS EN 942.
12. Fixings: To be determined by specialist joinery sub-contractor
13. Feature Light Fixtures: Ginger 20M Table Light in Brushed Brass (A662-562)

    13.1. Manufacturer:: Marset

    13.2. Product Details: USB-C powered with power adapter if required. Locations as per joinery drawings.
14. Fire performance: Full system and components to meet Class 0 - refer to fire strategy.
15. Joinery workmanship: As section Z10.
16. Metalwork materials and workmanship: As section Z11.
17. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
18. Ironmongery: Samples required of all ironmongery. Where exposed allow fo brass finish.
19. Other requirements:
    - Power and data outlets to be installed in desk with concealed wiring to power socket as per drawings. Grommets required in desktop for passage of cables.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, access control, control panels, panic button, telephone, audio induction loop etc. Refer to M+E drawings, security drawings and specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
20. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100B Purpose-made - Teapoint (Ground Floor - Annex Building)

1. Description: Bespoke teapoint and island joinery with lowered areas for wheelchair access and raised counter area for bar stool seating. Refer to drawings for location and design intent. Terrazzo countertop and laminate storage. Integrated appliances to be supplied and installed by contractor.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Worktop and Upstand (wall unit): 40mm thick terrazzo worktop and 100mm high upstand.

4.1. Manufacturer: Inopera

4.2. Product reference: Botticino 25 (Satin finish)

4.3. Edge: Bullnose edge to worktop

5. Worktop (island unit): 40mm thick terrazzo worktop

5.1. Manufacturer: Inopera

5.2. Product reference: Botticino 25 (Satin finish)

5.3. Edge: Bullnose edge

6. Counterfront: Birch panelling with grooved pattern to match K13/170C. No acoustic felt backing. Shadow gap detail between counter front and top.

7. Storage and skirting: Laminate finish to storage under the countertop, overhead units, and skirting. Allow for cupboards, skirting, and drawers as per drawings.

7.1. Manufacturer: Abet Laminati

7.1.1. Product reference: Standard Range. Colours vary - allow for two colours.

8. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.

9. Carcass: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components.
Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.

10. Integrated appliances / fixtures: Hot water taps as N11/350B.
Dishwasher as N11/360B
Fridge as N11/360C
Pull out bins as N11/345
Sink and mixer as N13/311B

11. Splashback: To run from terrazzo upstand up to underside of overhead cupboards, silicon sealed on all sides.

11.1. Manufacturer: Creo Glass

11.1.1. Product reference: Toughened glass kitchen splashback

12. Steel rounds: 100mm diameter stainless steel mirror finish hollow tube to support raised worktop.

12.1. Supplier: Metal Hardware or equivalent

12.1.1. Product reference: JSSMP15

13. Timber: To BS EN 942.

14. Fixings: To be determined by specialist joinery sub-contractor

15. Joinery workmanship: As section Z10.

16. Metalwork materials and workmanship: As section Z11.

17. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.

18. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage. Pull handles for doors to integrated fridges.

19. Other requirements:

- Power and data outlets to be installed in splashback and within joinery with concealed wiring to power socket as per drawings.
- Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.

- Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
- All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.

20. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100C Purpose-made - Cafe Severy (Ground Floor - Welcome space)

1. Description: Bespoke teapoint back and front joinery units with floating wall shelves. Refer to drawings for location and design intent. Terrazzo countertops with tiled counterfront, steel framing and support legs to be supplied and installed by contractor. Dashed items in elevation are indicative only and require further development by a Specialist Catering Contractor and by Client direct orders.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Worktop and upstand(wall unit): 70mm thick terrazzo worktop and upstand 100mm high.
   4.1. Manufacturer: Inopera
   4.2. Product reference: Botticino 25 (Satin finish)
   4.3. Edge: Bullnose to worktop.
5. Worktop (front unit): 70mm thick terrazzo worktop
   5.1. Manufacturer: Inopera
   5.2. Product reference: Botticino 25 (Satin finish)
   5.3. Edge: Bullnose Edge
6. Counterfront: Tiles as M40/110D.
7. Storage, Open shelving and skirting: Laminate finish to storage under countertop, open/floating shelves, and skirting. Allow for cupboards, skirting and drawers where indicated in the drawings.
   7.1. Manufacturer: Abet Laminati
      7.1.1. Product reference: Standard Range. Colours vary - allow for two colours.
8. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
9. Carcass: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components.
   Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.
10. Integrated appliances / fixtures: Hot water tap as N11/350A.
    Pull out bins N11/345
    Sink and mixer as N13/311B
11. Fixings: To be determined by specialist joinery sub-contractor
12. Joinery workmanship: As section Z10.
13. Metalwork materials and workmanship: As section Z11.

14. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
15. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage.
16. Other requirements:
    - Power and data outlets to be installed in splashback and within joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
17. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100D Purpose-made - Teapoints (L1 and L2 - Annex Building)

1. Description: Bespoke teapoint with lowered areas for wheelchair access. Refer to drawings for location and design intent. Terrazzo countertop and laminate storage. Integrated appliances to be supplied and installed by contractor

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Worktop and splashback: 40mm thick terrazzo worktop and 20mm thick splashback.
   4.1. Manufacturer: Inopera
   4.2. Product reference: Botticino 25 (satin finish)
   4.3. Edge: Bullnose edge.
5. Storage and skirting: Laminate finish to storage under countertop, overhead units and skirting. Allow cupboards, skirting and drawers as per drawings.
   5.1. Manufacturer: Abet Laminati
      5.1.1. Product reference: Standard Range. Colours vary - allow for two colours.
6. Carcase: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components.
   Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.
7. Integrated appliances / fixtures: Hot water tap as N11/350B.
   Dishwasher as N11/360B
   Fridge as N11/360C
   Pull out bins N11/345
   Sink and mixer as N13/311B
8. Timber: To BS EN 942.
9. Fixings: To be determined by specialist joinery sub-contractor
10. Joinery workmanship: As section Z10.

11. Metalwork materials and workmanship: As section Z11.
12. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
13. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage. Steel pull handles for doors to integrated fridges
14. Other requirements:
    - Power and data outlets to be installed in splashback and within joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
15. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100E Purpose-made - Teapoint (L0, L1 and L2 - Civic Centre Building)

1. Description: Bespoke island teapoint joinery and separate wall unit for integrated fridges. Work surface with lowered areas for wheelchair access and raised areas for bar stool seating. Refer to drawings for location and design intent. Terrazzo countertop and laminate storage. Integrated appliances to be supplied and installed by contractor.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Worktop : 40mm thick terrazzo worktop
   4.1. Manufacturer: Inopera
   4.2. Product reference: Botticino 25
   4.3. Edge: Bullnose edge
5. Counter front, skirting, storage and drawer fronts: Laminate finish to storage, counter front, wall unit, under countertop units and skirting. Allow for cupboards, skirting and drawers as per drawings.
   5.1. Manufacturer: Abet Laminati
      5.1.1. Product reference: Standard Range. Colours vary - allow for four colours total. (1x colour per floor)
6. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
7. Carcase: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components. Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.
8. Integrated appliances / fixtures: Hot water tap as N11/350B.
   Dishwasher as N11/360B
   Fridge as N11/360C

Pull out bins N11/345
Sink and mixer as N13/311B

9. Timber: To BS EN 942.
10. Fixings: To be determined by specialist joinery sub-contractor
11. Joinery workmanship: As section Z10.
12. Metalwork materials and workmanship: As section Z11.
13. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
14. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage. Steel pull handles for doors to integrated fridges.
15. Other requirements:
    - Power and data outlets to be installed in joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
16. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100F Inbuilt Planter To Link Block

1. Description: Bespoke integrated planter.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Panelling: Wood veneer species: Birch. To match approved sample.
   Cutting: Quarter cut
   Matching of individual panels: Book matching
   Orientation of grain: Vertical

   Two coats of clear non-intumescent lacquer, 10% matt sheen.

   Adjacent panels to match sequentially.
   Veneers to be consistent in grain and colour, and grain to run vertically (unless otherwise specified). Veneers to be selected and matched to present a continuous uniform appearance over all adjoining surfaces.
5. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
6. Support / construction frame:: Timber frame detail by subcontractor, fully concealed support fixings as required to ensure structural integrity of all components.
7. Timber: To BS EN 942.
8. Fixings: To be determined by specialist joinery sub-contractor
9. Joinery workmanship: As section Z10.
10. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.

11. Other requirements: Timber planter to be used as support for inner planter system and liner to be advised by specialist subcontractor.
12. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100G Concealed services cabinet to Registrars

1. Description: Bespoke service void cabinet.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   Services dimensions to be verified with MEP engineer prior to installation.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Cabinet doors and fixed side and top panels: Veneered plywood panels. Wood veneer species: Elm. To match existing wall panelling. Contractor to submit samples for architect's approval.
   Cutting: Quarter cut
   Matching of individual panels: Book matching
   Orientation of grain: Vertical

   Two coats of clear non-intumescent lacquer, 10% matt sheen (M60/160).

   Adjacent panels to match sequentially.
   Veneers to be consistent in grain and colour, and grain to run vertically (unless otherwise specified). Veneers to be selected and matched to present a continuous uniform appearance over all adjoining surfaces.
5. Construction frame: Concealed timber support frame as required to be developed by contractor.
6. Timber: To BS EN 942.
7. Fixings: Fasteners: Secret concealed fixings and hinges as required to be developed by specialist subcontractor.
8. Joinery workmanship: As section Z10.
9. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
10. Ironmongery: Push release latched doors. Allow for concealed hinges and secret door locking mechanism.
11. Other requirements: All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements. Cabinet to allow for ventilation penetration at high level as indicated on drawings. MEP to confirm free natural ventilation requirements
12. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100H Purpose-made - Print Points

1. Description: Print point joinery with worktop, storage and integrated bin space. Refer to drawings for locations and design intent.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.

2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.
4. Worktop : 20mm thick worktop. https://nbs.fyi/Ui2kwC
   4.1. Manufacturer: Corian® Solid Surface.
   4.2. Finish: Rain Cloud (Standard finish)
   4.3. Edge: Bullnose
5. Storage fronts and skirting: Laminate finish to storage under countertop, overhead units and skirting. Allow for cupboards, skirting and drawers as per drawings.
   5.1. Manufacturer: Abet Laminati or equivalent
      5.1.1. Product reference: Standard Range. Colours vary - allow for two colours.
6. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
7. Carcass: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components. Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.
8. Back Panel: Laminate Finish to back panel.
   8.1. Manufacturer: Abet Laminati or equivalent
      8.1.1. Product reference: Standard Range. Colours vary - allow for two colours.
9. Fixings: To be determined by specialist joinery sub-contractor
10. Joinery workmanship: As section Z10.
11. Metalwork materials and workmanship: As section Z11.
12. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
13. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage. Pull handles for full height storage.
14. Other requirements:
    - Power and data outlets to be installed above the bench and within joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
15. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100I Purpose-made - First Aid Room Joinery

1. Description: First Aid Room joinery with worktop, storage and integrate fridge space. Refer to drawings for locations and design intent.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.

4. Worktop and splashback: 20mm thick corian worktop
   4.1. Manufacturer: Corian
   4.2. Product reference: Rain Cloud (Standard finish)
   4.3. Edge: Bullnose
5. Storage and skirting: Laminate finish to storage wall unit, under countertop units and skirting. Allow for cupboards and skirting as per drawings.
   5.1. Manufacturer: Abet Laminati
      5.1.1. Product reference: Standard Range. Colours vary - allow for four colours total. (1x colour per floor)
6. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
7. Carcass: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components. Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor.
8. Integrated appliances / fixtures: Fridge as N11/360C
   Sink and mixer as N13/311B
9. Timber: To BS EN 942.
10. Fixings: To be determined by specialist joinery sub-contractor
11. Joinery workmanship: As section Z10.
12. Metalwork materials and workmanship: As section Z11.
13. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
14. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage.
15. Other requirements:
    - Power and data outlets to be installed in joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
16. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

100J Purpose-made - Teapoint (L3 - Civic Centre Building)

1. Description: Bespoke island teapoint joinery and separate wall joinery unit. Work surface with lowered areas for wheelchair access. Refer to drawings for location and design intent. Terrazzo countertop and laminate storage. Integrated appliances are to be supplied and installed by the contractor.

   Contractor to submit shop samples, shop drawings and proposals prior to manufacture for approval by Architect.

   To be fully integrated with equipment as per MEP.
2. Manufacturer: Specialist Joinery Subcontractor
3. Dimensions: Refer to design drawings. All dimensions to be checked on site prior to fabrication.

4. Worktop : 40mm thick terrazzo worktop
   4.1. Manufacturer: Inopera
   4.2. Product reference: Botticino 25
   4.3. Edge: Bullnose edge
5. Counter front, skirting, storage and drawer fronts: Laminate finish to storage, counter front, wall unit, under countertop units and skirting. Allow for cupboards, skirting and drawers as per drawings.
   5.1. Manufacturer: Abet Laminati
      5.1.1. Product reference: Standard Range. Colours vary - allow for four colours total. (1x colour per floor)
6. Jointing: All joints to be agreed with Architect prior to fabrication, with benchmark sample.
7. Carcase: Concealed MDF, softwood frame detail by the subcontractor (off-the-shelf items to be used where suitable), and fully concealed support fixings as required to ensure the structural integrity of all components. Countertop support concealed with mild steel section, brackets, and fixings, as recommended by the subcontractor. Exposed timber edges to select areas of the carcass as shown in drawings.
8. Integrated appliances / fixtures: Hot water tap as N11/350B.
   Dishwasher as N11/360B
   Fridge as N11/360C
   Pull out bins N11/345
   Sink and mixer as N13/311B
9. Timber: To BS EN 942.
10. Fixings: To be determined by specialist joinery sub-contractor
11. Joinery workmanship: As section Z10.
12. Metalwork materials and workmanship: As section Z11.
13. Assembly: Assembly shall take place in properly equipped workshop with site work restricted to fixing.
14. Ironmongery: Samples required of all ironmongery. Recessed handles for undercounter storage. Steel pull handles for doors to integrated fridges.
15. Other requirements:
    - Power and data outlets to be installed in joinery with concealed wiring to power socket as per drawings.
    - Shop drawings to show all cable ways and service runs where required. All service routes to be concealed.
    - Integrate all accessories including small power and data, lighting, fridge etc. Refer to M+E drawingsand specifications.
    - All for coordination with MEP contractor for interface and installation requirements for all MEP related equipment requirements.
16. Benchmark samples: Contractor to submit samples of all materials, finishes, junctions, hardware and edges as specified prior to fabrication for the approval of the Architect.

110 Council chamber podium / canopy to podium

1. Description: Timber frame podium platform with timber nosings to steps / edging. Curved timber desk to front of podium. Timber frame canopy with timber fascia

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.

- Room data sheets.
- General note 001 above.

2. Dismantle and re-build to allow MEP installations / acoustic insulation / thermal insulation installation – as spec C51/720. Refer to 21 series drawings / MEP drawings for locations.
   2.1. Carefully remove redundant wiring channels and wiring from around the podium and dispose.
   DO NOT PULL OFF. Confirm if the wiring is to be replaced prior to any removal.
   2.2. Remove the cover to the canopy to find the fixings – carefully remove so as not to damage the paneling on either side. If possible remove the plaster soffit in sections and store for replacement.
   2.3. Carefully remove the timber framing and marble, number and move to store for later re-installation. Record the installation method for re-installation. The framing appears to be screw fitted beneath pellets. There will be a support structure behind the marble panels that will need to be recorded and retained for later re-installation.
   2.4. Retain white plastic diffusers set in the front edge of the canopy.
   2.5. Carefully remove the screen housing to the east of the podium so as not to damage the panelling. Remove to store. Confirm if this item is to be re-installed, if not make good any fixing holes and M&E conduits.
   2.6. Carefully unscrew the Mace box, protect and store, include the chrome legs.
3. General repair requirements: As C51.
4. Panelling / solid timber element repairs / refurbishment: - Iron down lifting veneer.
   - Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
   - Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
   - Clean as C51/750.
   - Lightly sand.
5. Finish: As M60/161.
6. Brass elements: To be polished (using Brasso or Duraglit) and spray lacquer finish to prevent tarnishing to specialist subcontractor recommendations.
7. Drawers and other mechanisms: To be repaired and refurbished to specialist subcontractor recommendations.
8. Other requirements: To be coordinated with MEP installations.

111 Existing office built in furniture

1. Description: Built-in joinery incorporating glazed screens, open shelves, cupboards. Locations: retained North wing Offices

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Design: Refer to the interior design look and feel strategy for overall design intent.

   Remedial works to external walls and new service penetrations will require the temporary dismantling and modification of the existing joinery. Contractor to develop design in accordance with design intent and submit drawings / samples / method statements prior to works for approval by Contract Administrator/ conservation officer.
3. General repair: As C51 generally and C51/720 specifically.
   - Iron down lifting veneer.

- Holes less than 100 sq cm to be patch repaired to match existing. Method statement and sample repair to be provided for CA approval.
- Panels with holes greater than 100sq cm to be replaced with new panels to match existing.
- Clean as C51/750.
- Lightly sand.

4. Timber finish: As M60/161.
5. Ironmongery: Restore all ironmongery to achieve fully functioning doors as specialist subcontractor recommendations.
6. Glass: Replace glass in doors with safety glass.

128 General Filing Mid Height Storage Cupboards

1. Item: General Filing Mid Height Storage Cupboards with doors
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
   2.1. Product reference: TBC by Client if available
3. Worktops
   3.1. Material: Laminate colour TBC
4. Ironmongery: Handles TBC by Client

129 General Filing Full Height Storage Cupboards

1. Item: General Filing Full Height Storage Cupboards
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
   2.1. Product reference: TBC by Client
3. Worktops
   3.1. Laminate : Colour TBC
4. Ironmongery: Handles TBC by Client

130 General Filing End of Desk Storage Cupboards

1. Item: General Filing End of Desk Storage Cupboards
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
   2.1. Product reference: TBC by Client if available
3. Worktops
   3.1. Laminate: Colour TBC
4. Ironmongery: Handles TBC by Client

131 General Filing End of Desk Storage Cupboards with Planters

1. Item: General Filing End of Desk Storage Cupboards with Planters
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
   2.1. Product reference: TBC by Client if available
3. Worktops
   3.1. Laminate: Colour TBC
4. Accessories/ Other requirements: Door Handles (TBC by Client)

132 Meeting Room Credenza

1. Item: Meeting Room Credenza

2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
    2.1. Product reference: TBC by Client if available
3. Worktops
    3.1. Laminate: Colour TBC
4. Accessories/ Other requirements: Door Handles (TBC by Client)

133 Full Height Coat Storage Cupboards

1. Item: Full Height Coat Storage Cupboards
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
    2.1. Product reference: TBC by Client
3. Worktops
    3.1. Material: Laminate colour TBC

134 Meeting Room Television Surround

1. Item: Timber Meeting Room Television Surround
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
    2.1. Product reference: TBC by Client
3. Worktops
    3.1. Material: Laminate colour TBC

135 Air Drying Mesh Lockers

1. Item: Air Drying Mesh Lockers
2. Manufacturer: Rawside or acceptable equivalent (TBC by Client)
    2.1. Product reference: TBC by Client
3. Worktops
    3.1. Material: Steel to be power coated bespoke RAL colour. Colour TBC

171 Council chamber public gallery seating

1. Description: Built-in seating to public gallery. Timber repair as C51 generally.
   NB The seating includes the rear plinth like sections.
2. Remove or protect the upholstered seating.
3. Refurbish existing upholstered cushion seating where damaged to specialist sub-contractor recommendations – method statement to be submitted for approval. Missing upholstered cushion seating to be replaced to match existing
4. Remove adhesive tape residues.
5. Iron down lifting veneers where found.
6. Number and remove ashtrays. Refurbish ashtrays and re-fix after re-finishing woodwork.
7. Number, remove to store the row numbers and associated screws on the seat ends and re-fit after re-finishing woodwork
8. Wash down woodwork as C51/750
9. Timber finish as M60/161

220A Lockers - General

1. Manufacturer: Rawside or acceptable equivalent.

1.1. Product reference: Lockers or acceptable equivalent.
2. Dimensions: As shown on drawings.
3. Material: Laminated 18mm board.
4. Finish: Laminate, colour TBC.
5. Tier: Varies from two to four.
6. Skirting/ Plinth fascia: Lockers to be mounted onto secure plinth.
7. Lock: TBC by Client
8. Framework: MDF board carcass
9. Door: Compact grade laminate with different colour finishes (RAL TBC). Matching end panels are provided where necessary.
10. Other requirements: Infill panels to match formed as part of framework.

220B Lockers - Showers

1. Manufacturer: Five at Heart or acceptable equivalent.
   1.1. Product reference: The Maximus or acceptable equivalent.
2. Dimensions: As shown on drawings.
3. Material: Solid hardwood bench top and laminated MDF door
4. Finish: Solid grade laminate, colour TBC.
5. Tier: Three
6. Skirting/ Plinth fascia: Lockers to be mounted onto secure plinth.
7. Lock: TBC
8. Framework: White particleboard carcass and a moisture resistant base with black finish
9. Door: Laminated MDF door. Matching end panels are provided where necessary.
10. Other requirements: Infill panels to match formed as part of framework.
    Minimum 80 lockers required to meet BREEAM standards.

220C Mid Height Lockers with Planters - General

1. Manufacturer: Rawside or acceptable equivalent.
   1.1. Product reference: Lockers or acceptable equivalent.
2. Dimensions: As shown on drawings.
3. Material: Laminated 18mm board.
4. Finish: Laminate, colour TBC.
5. Tier: Two
6. Skirting/ Plinth fascia: Lockers to be mounted onto secure plinth.
7. Lock: TBC by Client
8. Framework: MDF board carcass
9. Door: Compact grade laminate with different colour finishes (RAL TBC). Matching end panels are provided where necessary.
10. Other requirements: Infill panels to match formed as part of framework.

235B Curtains - Dimout

1. Description: Dimout curtains
2. Manufacturer: Waverley or acceptable equivalent.

2.1. Product reference: Hand-drawn or motorised TBC by client (duty rating subject to curtain size / location):
- Hand-drawn Curtain track – SG 6840
- Motorised Curtain Track – SG 5600
- Heavy Duty Motorised Curtain Track – Triple E Stage Track with drive module – the specific system required will depend on measured curtain dimensions.

3. Standard: To BS 5867-1 and -2.
4. Dimensions
   4.1. Width: Refer to design drawings
   4.2. Drop: Refer to design drawings
5. Heading style: 80mm Wave
6. Material
   6.1. Manufacturer: Kvadrat or acceptable equivalent.
   6.2. Fabric: Dawn 2 or acceptable equivalent. Final product TBC with client.
   6.3. Colour/ Pattern: Allow for three colours. TBC by Architect and client representative.
7. Integral accessories: As required to complete installation

235C Curtains - Acoustic

1. Description: Acoustic curtains to committee wings and former registrar's space.
2. Manufacturer: Waverley or acceptable equivalent.
   2.1. Product reference: Hand-drawn or motorised TBC by client (duty rating subject to curtain size / location):
   - Hand-drawn Curtain track – SG 6840
   - Motorised Curtain Track – SG 5600
   - Heavy Duty Motorised Curtain Track – Triple E Stage Track with drive module – the specific system required will depend on measured curtain dimensions.
3. Standard: To BS 5867-1 and -2.
4. Dimensions
   4.1. Width: Refer to design drawings
   4.2. Drop: Refer to design drawings
5. Heading style: 80mm Wave
6. Material
   6.1. Manufacturer: Creation Bauman or acceptable equivalent.
   6.2. Fabric: Acoustic Divider Vario - NoiseBlocker, colour TBC. (Fabric to have min. density of 250 kg/m3)
   Final product TBC with client representative and architect.
   6.3. Colour/ Pattern: Allow for three colours. TBC by Architect and client representative.
7. Integral accessories: As required to complete installation

240A Blinds - Blackout

1. Description: Blackout blinds
2. Standard: To BS EN 13120.
3. Manufacturer: Waverley or acceptable equivalent.
   3.1. Product reference: Manual or motorised TBC by client (duty rating subject to blindsize / location):

Standard Manual Blind – RBL-C
Standard Motorised Blind – RBL-E
Heavy Duty Motorised Blind – RBXL-E

4. Type: Vertical roller
5. Finish / colour hardware: Hardware to be powder coated to standard RAL Classic Colour - TBC by Architect.
6. Fixing:: Surface fixed to specialist manufacturer's recommendations and to Architect's approval. To be confirmed following site visit by specialist manufacturer and coordinated with available space above or adjacent to window.
   Ceiling or wall fixings to be confirmed and agreed with Architect.
7. Dimensions: Refer to design drawings and window schedule
8. Operation: TBC by client
9. Fabric
   9.1. Manufacturer: Waverley or acceptable equivalent.
   9.2. Fabric: ThetaBlock 700 eco
   9.3. Colour: Allow for three colours. TBC by Architect and client representative.
10. Accessories/ Other requirements:
    - Stop controller to stop at base of window
    - Covers to end brackets.
    - As required to complete construction.
    - Window dimensions to be checked on site.
    - Environmental Performance Requirement for BREEAM.

240B Blinds - Glare control

1. Description: Glare control blinds
2. Standard: To BS EN 13120.
3. Manufacturer: Waverley or acceptable equivalent.
   3.1. Product reference: Manual or motorised TBC by client (duty rating subject to blindsize / location):
   Standard Manual Blind – RBL-C
   Standard Motorised Blind – RBL-E
   Heavy Duty Motorised Blind – RBXL-E
4. Type: Vertical roller
5. Finish / colour hardware: Hardware to be powder coated to standard RAL Classic Colour - TBC by Architect.
6. Fixing:: Surface fixed to specialist manufacturer's recommendations and to Architect's approval. To be confirmed following site visit by specialist manufacturer and coordinated with available space above or adjacent to window.
   Ceiling or wall fixings to be confirmed and agreed with Architect.
7. Dimensions: Refer to design drawings and window schedule
8. Operation: TBC by client
9. Fabric
   9.1. Manufacturer: Waverley or acceptable equivalent.
   9.2. Fabric: BetaScreen 300 1% eco (BREEAM 2018 creditable, due to having a light transmission value (Tv) of less than 10%, and an openness factor of 1%).
   9.3. Colour: Allow for three colours. TBC by Architect and client representative.

10. Accessories/ Other requirements:
    - Stop controller to stop at base of window
    - Covers to end brackets.
    - As required to complete construction.
    - Window dimensions to be checked on site.
    - Environmental Performance Requirement for BREEAM.

300 Entrance matting

1. Manufacturer: INTRAsystems or acceptable equivalent.
    1.1. Product reference: INTRAflex XT Entrance Matting or acceptable equivalent.
2. Arrangement: Inset internal.
3. Dimensions: 18 mm.
4. Material: INTRAlux Polypropylene fibres with aluminium strip.
5. Pattern: Linear.
6. Colour: TBC from standard range to match adjacent floor finishes.
7. Integral accessories: Aluminium matwell frame.
8. Construction: Closed.
9. Depth: 18 mm.
10. Weight: 21.1 kg/m².
11. Aluminium profile finish: Bespoke, Anodized (colour TBC)
12. Inserts: INTRAlux Linear polypropylene fibre.
13. Mat well frame: INT021.
14. Flammability: Bfl-s1, Cfl-s1.
15. Slip resistance: PTV >40 (Wet).

510 Pendant lamp

1. Description: Pendant lampshade to welcome area servery.
2. Manufacturer: Nest or acceptable equivalent
    2.1. Product reference: Muuto Strang Pendant Lamp Closed. 450mm dia or acceptable equivalent
3. Colour: White

Execution

710 Moisture content of wood and wood-based boards

1. Standard: To BS EN 942
2. Moisture content on delivery: 9-13%
3. Temperature and humidity: During delivery, storage, fixing and to handover maintain conditions to suit specified moisture contents of timber components.

720 Installation generally

1. General: As Preliminaries section A33
2. Fixing and fasteners: As section Z20.
3. Services: To MEP specification.

760 Sealant bedding and pointing

1. Application: As section Z22.

770 Trims

1. Lengths: Wherever possible, unjointed between angles or ends of runs.
2. Running joints: Where unavoidable, obtain approval of location and method of jointing.
3. Angle joints: Mitred.

Completion

910 General

1. Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
2. Ironmongery: Checked, adjusted and lubricated to ensure correct functioning.

920 Appliances

1. Test: Ensure that all functions and features work correctly.
2. Documentation: Submit guarantees, instruction manuals, etc.

Ω End of Section

N11
Domestic kitchen fittings, furnishings and equipment

Products

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

345 Pull out bins

1. Manufacturer: Hafele or acceptable equivalent
   1.1. Product reference: Pull Out Waste Bin, 450 mm, Vauth-Sagel VS ENVI Space XX Pro S / Pro (50344302) or acceptable equivalent
2. Finish: Lava Grey

346 Freestanding bin

1. Manufacturer: Hafele or acceptable equivalent
   1.1. Product reference: Ninka Bin (502.90.606) or acceptable equivalent
2. Finish: Light Grey
3. Dimensions: 230w x412d x560h mm

350A Hot water tap - Servery

1. Manufacturer: Zip Water or acceptable equivalent
2. Product reference: Zip HydroTap Classic Plus (H55799Z00UK) or acceptable equivalent
3. Water: Boiling, chilled.
4. Duty
   4.1. Hot cups: 140 per hour.
   4.2. Cold cups: 75 per hour.
   4.3. Dimensions: 280 x 478 x 333mm
   4.4. Electrical connection
      4.4.1. Voltage: 230 V (50/60 Hz).
5. Water inlet: 1/2” BSP.

6. Colour/ Finish: Bright chrome
7. Font: Integrated font required (90915UK).
8. Vent: This command centre comes with a separate vent tray which will be attached to the exterior.
9. Accessories: Limescale kit (FL1500 KIT)
10. Other: To be coordinated with MEP requirements.

350B Hot water tap - Annex

1. Manufacturer: Zip Water or acceptable equivalent
2. Product reference: Zip HydroTap Classic Accessible (H51705Z00UKD) or an acceptable equivalent
3. Water: Boiling, chilled.
4. Duty
    4.1. Hot cups: 240 per hour.
    4.2. Cold cups: 175 per hour.
    4.3. Dimensions: 500 x 520 x 373 mm.
    4.4. Electrical connection
        4.4.1. Voltage: 230 V (50/60 Hz).
5. Water inlet: 1/2” BSP.
6. Colour/ Finish: Bright chrome
7. Font: Integrated font required (90915UK)
8. Vent: This command centre comes with a separate vent tray which will be attached to the exterior.
9. Accessories: Limescale kit (FL1500 KIT)
10. Other: To be coordinated with MEP requirements.

350C Hot water tap - Nursing Room

1. Manufacturer: Zip Water or acceptable equivalent.
2. Product reference: Hydrotap G5 Classic Plus Boiling Chilled 100/75 (H55702Z00UK) or acceptable equivalent.
3. Water: Boiling, chilled.
4. Duty
    4.1. Hot cups: 100 per hour.
    4.2. Cold cups: 75 per hour.
    4.3. Dimensions: W280mm x D478mm x H333mm
    4.4. Electrical connection
        4.4.1. Voltage: 230 V (50/60 Hz).
5. Water inlet: 1/2” BSP.
6. Colour/ Finish: Brushed chrome.
7. Font: Integrated font required (90915UK)
8. Vent: This command centre comes with a separate vent tray which will be attached to the exterior.
9. Additional Accessories: Limescale kit (FL1500 KIT)

10. Other: To be coordinated with MEP requirements.

350D Hot water tap - Civic Centre (A)

1. Manufacturer: Zip Water or acceptable equivalent
2. Product reference: Zip HydroTap Classic Accessible (H51704Z00UKD) or an acceptable equivalent
3. Water: Boiling, chilled.
4. Duty
    4.1. Hot cups: 160 per hour.
    4.2. Cold cups: 175 per hour.
    4.3. Dimensions: 500 x 520 x 373 mm.
    4.4. Electrical connection
        4.4.1. Voltage: 230 V (50/60 Hz).
5. Water inlet: 1/2” BSP.
6. Colour/ Finish: Bright chrome
7. Font: Integrated font required (90915UK)
8. Vent: This command centre comes with a separate vent tray which will be attached to the exterior.
9. Accessories: Limescale kit (FL1500 KIT)
10. Other: To be coordinated with MEP requirements.

360A Microwave

1. Manufacturer: Bosch or acceptable equivalent
    1.1. Product reference: Series 2 Freestanding microwave 44 x 26 cm (FEL023MS2B) or acceptable equivalent
2. Service connections: To MEP requirements.

360B Dishwasher

1. Manufacturer: Bosch or acceptable equivalent
    1.1. Product reference: Series 8 Fully-integrated dishwasher 60 cm (SMD8YCX02G) or acceptable equivalent
2. Colour and finish: Integrated.
3. Service connections: To MEP requirements

360C Fridge

1. Manufacturer: Miele or acceptable equivalent
    1.1. Product reference: K 2902 Vi MasterCool Refrigerator (K2902Vi) or acceptable equivalent
2. Colour and finish: Integrated
3. Service connections: To MEP requirements

360D Commercial fridge to servery

1. Item: Location, number and type TBC with client when vendor is on board.
2. Manufacturer: TBC

360E Commercial dishwasher to servery

1. Item: Location, number and type TBC with client when vendor is on board.
2. Manufacturer: TBC

360F Undercounter Fridge

1. Manufacturer: Miele or acceptable equivalent
    1.1. Product reference: K 31222 Ui Refrigerator (K31222) or acceptable equivalent
2. Colour and finish: Integrated
3. Service connections: To MEP requirements

Execution

610 Moisture content of wood and wood-based boards

1. Control and monitoring
    1.1. Method statement: Submit.

620 Installation generally

1. Fixings and adhesives: As section Z20.
2. Services: To MEP information.

630 Installing units and worktops

1. General: Well-fitting, stable and secure.

640 Installing appliances

1. Connections: Provide to electric, gas, and hot and cold water services.

650 Installing sinks, taps and wastes

1. Water supply: To BS EN 806-2 and -4.
2. Taps
    2.1. Fixing: Secure, watertight seal with the appliance.
    2.2. Positioning: Hot tap to left of cold tap as viewed by the user of the appliance.
3. Wastes
    3.1. Bedding: Waterproof jointing compound.
    3.2. Fixing: With resilient washer between appliance and backnut.

660 Sealant bedding and pointing

1. Application: As section Z22.

670 Installing trims and mouldings

1. Lengths: Un-jointed between angles or ends of runs.
2. Angle joints: Mitred.

Completion

910 General

1. Doors and drawers: Accurately aligned, not binding. Adjusted to ensure smooth operation.
2. Ironmongery: Checked, adjusted and lubricated to ensure correct functioning.

920 Appliance commissioning

1. Appliance operation, functions and controls: Verify.
2. Documentation: Submit guarantees, instruction manuals, etc.

Ω End of Section

N13
Sanitary appliances and fittings

Products

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

300 WCs and cisterns - Generally

1. Type: Wall hung, concealed cistern
2. Pan
   - 2.1. Standards: To BS EN 33 and BS EN 997, Class 2
   - 2.2. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 2.2.1. Product reference: iCon wall-hung WC, Washdown, Shrouded, Rimfree (501.661.00.1) or acceptable equivalent.
   - 2.3. Material: Vitreous china, white
   - 2.4. Installation: To suit use - typical, ambluant and less-abled.
3. Seat and cover
   - 3.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 3.1.1. Product reference: iCon WC seat (574130000) or acceptable equivalent.
   - 3.2. Finish/ colour: White/gloss
   - 3.3. Soft close: Required
4. Cistern
   - 4.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 4.1.1. Product reference: Sigma concealed cistern 12cm (109.105.00.1) or acceptable equivalent.
   - 4.2. Installation: Installation for flush valve to meet BREEAM level 5
5. IR/Touch Free Flush Control
   - 5.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent

5.1.1. Product reference: Geberit WC flush control with electronic flush actuation, mains operation, for Sigma concealed cistern 12 cm, dual flush, with Sigma10 actuator plate, automatic / touchless

5.1.2. Finish: Stainless steel

301 WCs and cisterns - Accessible

1. Type: Wall hung, concealed cistern
2. Pan
   - 2.1. Standards: To BS EN 33 and BS EN 997, Class 2
   - 2.2. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 2.2.1. Product reference: Selnova Comfort Long Projection WC (501.046.00.7) or acceptable equivalent.
   - 2.3. Material: Vitreous china, white
   - 2.4. Installation: To suit use - fully wheelchair accessible.
3. Seat and cover
   - 3.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 3.1.1. Product reference: Selnova Comfort Seat Ring Only (501.558.01.1) or acceptable equivalent.
   - 3.2. Finish/ colour: White/gloss
   - 3.3. Soft close: Required
4. Cistern
   - 4.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 4.1.1. Product reference: Sigma concealed cistern 12cm, less-abled installation (109.105.00.1) or acceptable equivalent.
   - 4.2. Installation: Installation for flush valve to meet BREEAM level 5
5. IR/Touch Free Flush Control
   - 5.1. Manufacturer: Geberit Sales Ltd or acceptable equivalent
     - 5.1.1. Product reference: Geberit WC flush control with electronic flush actuation, mains operation, for Sigma concealed cistern 12 cm, dual flush, with Sigma10 actuator plate, automatic / touchless
     - 5.1.2. Finish: Stainless steel

312A Unisex accessible shower room equipment packages (Document M) - Right Hand Transfer

1. Description: Shower room pack with folding shower seat and back support in grey, 3 x 60cm grab rails, 2 x hinged rails and 2 x 45cm grab rails, lever operated thermostatic mixer for concealed supplies, shower handset holder, handset & hose, fixed short projection shower head, lever operated diverter, shower curtain and shower rail.
2. Manufacturer: Ideal Standard or acceptable equivalent.
   - 2.1. Product reference: Doc M Shower Room Pack S6960(MY) Right Hand Transfer.
3. Type approval certificate: Submit.
4. Finish/ colour
   - 4.1. Seat, folding: Grey
   - 4.2. Back support: Grey

4.3. Shower curtain rail: Chrome

4.4. Shower curtain: To be agreed with architect.

4.5. Handrails and grab bars: Chrome

5. Shower fittings: Lever operated thermostatic mixer for concealed supplies, shower handset holder, handset & hose, fixed short projection shower head and lever operated diverter.

5.1. Finish: Chrome

5.2. Operating control: Lever

5.3. Water supply temperature (maximum): As MEP information.

5.4. Flow rate: As MEP information and BREEAM requirements.

6. Accessories: All accessories required to complete system as recommended by manufacturer.

312B Unisex accessible shower room equipment packages (Document M) - Left hand transfer

1. As Right hand pack N13/312A but for LH transition.

331A Sinks - Cleaners

1. Standard: To BS 1206
2. Manufacturer: Ideal Standard or acceptable equivalent.

2.1. Product reference: S5900 Alder sink 51 x 31cm high back and fitted stainless steel bucket grating

3. Size: 510 x 380mm
4. Material: Vitreous Chino
5. Colour: White
6. Configuration: Floor-standing
7. Water supply fittings: Bib taps

7.1. Material: Chrome

7.2. Water supply temperature (maximum): As MEP information.

7.3. Flow rate (maximum): As MEP information and BREEAM requirements.

7.4. Manufacturer: Ideal Standard or acceptable equivalent.

7.4.1. Product reference: B1457 Alterna 21 bib taps 1/2"lever handles with anti-vandal outlet (pair)
B1688 Nimbus 21 exposed bib tap wall mount with self centralising installation (pair)

8. Wastes: As recommended by manufacturer

8.1. Standards: To BS EN 274-1, -2 and -3.

8.2. Manufacturer: Ideal Standard or acceptable equivalent.

8.2.1. Product reference: S8726 Waste 1½" unslotted strainer waste, 80mm tail. brass

9. Traps: S8925 Trap 1½" plastic resealing bottle with 75mm seal, multi-purpose outlet.
10. Accessories: - S9233 Leg 350mm stainless steel with 355mm screw to wall Aluminium alloy bearer, 305mm stud (pair)
- A5900 TMV thermostatic mixing valve, 15mm
- All accessories required to complete system as recommended by manufacturer.

331B Sinks - Teapoint / servery

1. Standard: To BS EN 13310

2. Manufacturer: Grohe or acceptable equivalent
   2.1. Product reference: K700U stainless steel sink (31574SD1) or acceptable equivalent
3. Size: 550 x 450mm
4. Material: Stainless steel
5. Colour: Satin finish
6. Water supply fittings: Sink mixer taps
   6.1. Material: Chrome finish
   6.2. Water supply temperature (maximum): To MEP requirements.
   6.3. Flow rate (maximum): To MEP and BREEAM requirements.
   6.4. Manufacturer: Hansgrohe or acceptable equivalent
      6.4.1. Product reference: Focus M41 Single lever kitchen mixer 160 Eco, single spray mode (31806000) or acceptable equivalent
7. Wastes: As manufacturer's standard.
   7.1. Standards: To BS EN 274-1, -2 and -3.

335A Washbasins - WCs generally

1. Description: To all WC locations
2. Manufacturer: Laufen or acceptable equivalent.
   2.1. Product reference: Val washbasin 'compact' with semi wet area (H8152850001091) or acceptable equivalent.
3. Form: Wall-hung wash basin.
4. Materials
   4.1. Body: Solid surface.
   4.2. Finish and colour: White
5. Size: 600x310x155 mm.
6. Water supply, overflow and waste holes
   6.1. Water supply: No tap holes.
   6.2. Overflow: None.
7. Integral accessories: Manufacturer's standard. Mixer as N13/350A and bottle trap as N13/351.

335B Washbasins - Wudu

1. Description: Wudu unit for foot washing facilities in quiet room.
2. Manufacturer: Wudu Mate or acceptable equivalent.
   2.1. Product reference: WuduMate Classic or acceptable equivalent.
   Final product selection to be approved by the client.
3. Colour: White
4. Other requirements: Including tap, aerators, thermostatic mixing valve and anti-slip shaped matting.
   Refer to MEP engineer's requirements.

335C Washbasins - Post room

1. Description: Wall-mounted wash hand basin with side taphole and tap as N13/350B.
2. Manufacturer: Ideal Standard or acceptable equivalent

2.1. Product reference: 50cm wall-hung hand basin or acceptable equivalent.
Final product selection to be approved by the client. Security Consultant to confirm product selection

3. Size: 500 mm x 300 mm
4. Material: White vitreous china
5. Finish: Glazed, fireclay, white
6. General: Security Consultant to confirm product selection
Refer to MEP engineer's requirements.
7. Configuration: One tap hole centre and overflow hole
8. Accessories: Limiter to tap, chrome waste, bottle trap.

335D Washbasins - Changing places

1. Description: Height adjustable wash hand basins to changing places.
2. Manufacturer: Astor Bannerman or acceptable equivalent.
   2.1. Product reference: Height Adjustable Washbasin - Aquba or acceptable equivalent.
   Final product selection to be approved by the client.
3. Form: Wall-hung wash basin, height adjustable.
4. Materials
   4.1. Finish and colour: Smooth corianstyle basin finish. White.
5. Size: 600 x 535 mm.
6. Water supply, overflow and waste holes
   6.1. Water supply: Single tap hole, centred.
   6.2. Overflow: Rear overflow hole.
   6.3. Waste: Bottom waste outlet.
7. Integral accessories: Control panel, rails, click clack waste, lock-out functionality and anti-trap sensor.
8. Electrical supply: Mains operated. Refer to MEP requiremtnes.
9. Height: Adjustable, 300 mm. Two settable hieght positions.
10. Maximum weight: 150 kg maximum load.
11. Load bearing hand / towel rails: Finish TBC
12. Mixer tap: Long lever mixer tap TBC. Flow rates to meet BREEAM requirements.
13. Other requirements: Installation as manufacturer's recommendations to meet Changing Places standard.

350A Washbasin mixer - Generally

1. Manufacturer: The Splash Lab Limitedor acceptable equivalent.
   1.1. Product reference: The Radius 150mm Sensor Tap (TSL.884.CS)or acceptable equivalent.
2. Approvals: Water Regulations Approval Scheme (WRAS)-approved, certificate no. 1809302.
3. Form: Wall-mounted sensor tap.
4. Materials
   4.1. Body: AISI 304 stainless steel.
   4.2. Finish and colour: Satin stainless steel.
5. Flow rate (maximum): To MEP specification.

6. Water supply temperature (maximum): To MEP specification.
7. Integral accessories: Manufacturer's standard.
8. Power supply: To MEP specification.
9. Colour (Light reflectance value (LRV): 51.

350B Washbasin mixer - Post room

1. Description: Taps to sinks in post room
2. Manufacturer: Ideal Standard or acceptable equivalent.
    2.1. Product reference: Cerafine or acceptable equivalent.
3. Approvals: Water Regulations Approval Scheme (WRAS)-approved.
4. Materials
    4.1. Finish and colour: Satin stainless steel.
5. Flow rate (maximum): To MEP specification. Flow rates to meet BREEAM requirements.
6. Water supply temperature (maximum): To MEP specification.
7. Integral accessories: Manufacturer's standard.

351 Washbasin bottle traps

1. Manufacturer: The Splash Lab Limited or acceptable equivalent.
    1.1. Product reference: The Radius Adjustable Bottle Trap (TSL.650.CS) or acceptable equivalent.
2. Trap: Bottle trap, adjustable.
3. Jointing: Manufacturer's standard.
4. Material: AISI 304 stainless steel.
5. Colour: Satin stainless steel.
6. Size: DN 32.
7. Depth of water seal (minimum): Manufacturer's standard.
8. Integral accessories: Manufacturer's standard.
9. Weight: 1.24 kg.
10. Colour (Light reflectance value (LRV): 51.

375 Shower units

1. Tray:
    1.1. Standard: BS EN 14527
    1.2. Manufacturer: Matki or acceptable equivalent.
        1.2.1. Product reference: SN1880 Standard Height Tray (1800mm x 800mm x 60mm) or acceptable equivalent. Note one custom sized tray approx. 2300mm (to be checked on site) where shown in drawings.
            1.2.1.1. Size: 1200 x 800mm typically
    1.3. Material: Solid surface
    1.4. Colour: White
    1.5. Waste cover: As manufacturer's standard.
    Finish: Stainless steel.
2. Shower fittings: Thermostatic shower mixer, concealed

2.1. Manufacturer: Grohe or acceptable equivalent.

2.1.1. Product reference: Bauedge Single-Lever Shower Mixer 1/2 (29078000) or acceptable equivalent.

2.2. Finish: Chrome

2.3. Water supply temperature (maximum): To MEP specification.

2.4. Flow rate: As MEP information and BREEAM requirements.

3. Shower rail and head

3.1. Manufacturer: Grohe or acceptable equivalent.

3.1.1. Product reference: Euphoria 110 Mono Shower Rail Set 1 Spray (2726600E) or acceptable equivalent.

3.2. Finish: Chrome

4. Enclosure: Frameless glass shower enclosure, consisting of a door and inline panel.

4.1. Standard: 10mm thick toughened safety glass tested to EN12150

4.2. Manufacturer: Just Frameless Showers or acceptable equivalent.

4.2.1. Product reference: The Shower Lab View 03 Shower Enclosure, With Knob Handle (VR03S180-CR and H7)or acceptable equivalent.

4.3. Finish: Chrome

5. Accessories: All accessories as recommended by manufacturers to complete system.

429 Clothes hooks

1. Manufacturer: Abi Interiors or acceptable equivalent.

1.1. Product reference: Milani Robe Hook (11674) or acceptable equivalent.

2. Finish/ colour: Brushed Nickel

436 Grab Rail Doc M Pack

1. Description: Accessible grab rail and back rest.
2. Manufacturer: Nymas Group or acceptable equivalent

2.1. Product reference: Rail only Doc M pack with stainless steel luxury concealed fixing grab rails and back rest with white pad (320006/SS) or acceptable equivalent.

3. Material: Stainless steel
4. Installation:: Concealed fixings

438A Mirrors (small)

1. Manufacturer: Roca or acceptable equivalent.

1.1. Product reference: Round Mirror 550mm dia (A812193000) or acceptable equivalent.

438B Mirrors (large)

1. Manufacturer: Moebe or acceptable equivalent.

1.1. Product reference: Tall Wall Mirror - Chrome (440x1465mm) or acceptable equivalent.

441 Paper roll dispensers

1. Description: Satin stainless steel wide paper roll dispenser for 'Changing Places' facility.
2. Manufacturer: Contractor to submit proposals.

2.1. Product reference: Contractor to submit proposals.

442 Paper towel dispensers

1. Description: Wall mounted satin stainless steel for teapoints, medical room and foot washing facilities.
2. Manufacturer: Lovair: L956CS satin stainless steel or acceptable equivalent
   2.1. Product reference: L956CS satin stainless steel or acceptable equivalent. Final product selection to be approved by the client.
3. Finish/ colour: Satin stainless steel

446 Sanitary product disposal bins

1. Manufacturer: Commercial Washrooms or acceptable equivalent.
   1.1. Product reference: Bobrick Satin Stainless Steel Sanitary Bin (B-270) or acceptable equivalent.
2. Finish/ colour: Stainless steel

448 Changing bench

1. Description: To shower rooms.
2. Manufacturer: Dieffebi or acceptable equivalent
   2.1. Product reference: 1000mm bench (20K000010 7035) or acceptable equivalent
3. Material: Timber Slats on Stainless Steel Frame.

456 Shelf soap dish

1. Manufacturer: Abi Interiors or acceptable equivalent
   1.1. Product reference: Vaada Extended Shower Shelf Soap Dish 440mm - Stainless Steel (10742) or acceptable equivalent
2. Finish/ colour: Stainless steel

458 Soap dispensers

1. Manufacturer: The Splash Lab or acceptable equivalent.
   1.1. Product reference: Wall Mounted Sensor Operated Soap Dispenser (TSL.937) or acceptable equivalent.
2. Finish/ colour: Satin

460 Toilet brush holders

1. Manufacturer: Abi Interiors or acceptable equivalent.
   1.1. Product reference: Toilet Brush Holder (13078) or acceptable equivalent.
2. Finish/ colour: Stainless steel.

462 Toilet roll holders

1. Manufacturer: Bobrick or acceptable equivalent.
   1.1. Product reference: Bobrick 270mm Diameter Jumbo-Roll Toilet Tissue Dispenser (B-2890) or acceptable equivalent.
2. Finish/ colour: Satin Stainless Steel

466 Towel rails

1. Description: Wall mounted stainless steel towel units to Foot washing facilities and to showers.
2. Manufacturer: Lovair or acceptable equivalent.
    2.1. Product reference: Final product selection to be approved by the client.
3. Finish/ colour: Stainless steel

472 Electric hand dryers

1. Manufacturer: Dyson or acceptable equivalent.
    1.1. Product reference: Dyson Airblade V (HU02 V Nickel)or acceptable equivalent.
2. Finish: Nickel
3. Operation: Automatic operation, hand drying only
4. Electrical supply: As MEP information.

473 Electric hair dryers

1. Manufacturer: Handdryers UK or acceptable equivalent.
    1.1. Product reference: Valera Hotello Hair Dryer with Hose 1200W (EPANB9)or acceptable equivalent.
2. Finish: Silver
3. Operation: Automatic operation, hand drying only
4. Electrical supply: As MEP information.

474 Suspended disposal bins

1. Manufacturer: Bobrick or acceptable equivalent.
    1.1. Product reference: Bobrick Stainless Steel Classic Series Waste Receptacle, 24.2L (B-279) or acceptable equivalent.
2. Finish/ colour: Stainless Steel

475 Alarm pull cord

1. Alarm pull cord to all accessible WCs to meet Part M requirements.
2. Manufacturer: Contractor to submit proposals
3. Finish: Stainless steel faceplate / red pull cord
4. Other requirements: Refer to MEP information.

484 Sanitary towel disposal bins

1. Description: Wall mounted satin stainless steel for toilets
2. Manufacturer: Lovair or acceptable equivalent
    2.1. Product reference: L977CS or acceptable equivalent.
    Final product selection to be approved by the client.
3. Finish/ colour: Stainless steel.

488 Adult changing units

1. Manufacturer: Astor Bannerman or acceptable equivalent.
    1.1. Product reference: Height Adjustable Changing Table for Public Changing Placesor acceptbale equivalent.

2. Form: Wall-mounted.
3. Materials
   3.1. Platform and supports: Stainless steel.
   3.2. Cover: Cut and graffiti resistant bed/stretcher.
4. Dimensions
   4.1. Plan size (minimum): 1800 x 800 mm.
   4.2. Height: Adjustable, 300–1040 mm.
5. Weight limit: 227 kg (500 lb).
6. Integral accessories: Embedded controls and emergency stop button.
7. Electrical power: To MEP information.
8. Other requirements: Installation as manufacturer's recommendations to meet Changing Places standard.

490 Assisted transfer hoists

1. Manufacturer: Astor Bannerman or acceptable equivalent.
   1.1. Product reference: Hoist for Changing Places Toilets or acceptable equivalent.
2. Form: Ceiling-mounted track hoist.
3. Cradle or sling
   3.1. Hoist fittings for slings: Two point, four hook spreader bar for loop slings.
4. Safe working load (maximum): 200 kg.
5. Integral accessories: Handset.
6. Electrical power: Mains.
7. Ceiling track: H (XY) track.
8. Ingress protection (IP) rating: IP54.
9. Voltage: 24 V d.c.
10. Other requirements: Tape lifting range: 100mm - 2500mm
    Noise Level: 42dB
    Auto emergency stop and lowering.
    Installation as manufacturer's recommendations to meet Changing Places standard.

491 First aid room package

1. First aid room package with all necessary items required to furnish a first aid room including: examination couches, stainless steel first aid cabinets, dressing trolleys and mobile folding screens.
2. Manufacturer TBC
3. Final product selection to be approved by the client.
   To meet HSE requirements.

580 Sealant for pointing

1. Refer to Z22 section
2. Standard: To BS EN ISO 11600.
3. Colour: TBC subject to location.

Execution

610 Installation generally

1. Standards: In accordance with BS 6465-1, -2 and -3.
2. Assembly and fixing: Surfaces designed to falls to drain as intended.
3. Fasteners: Non-ferrous or stainless steel.
4. Fixing: Fix appliances securely to structure. Do not support on pipework.
5. Jointing and bedding compounds: Recommended by manufacturers of appliances, accessories and pipes being jointed or bedded.
6. Appliances: Do not use. Do not stand on appliances.
7. Supply and discharge pipework: Fix before appliances.
8. On completion: Components and accessories working correctly with no leaks.
9. Labels and stickers: Remove.

613 Compatibility of components

1. General: Each sanitary assembly must consist of functionally compatible components, preferably obtained from a single manufacturer.

620 Noggings and bearers

1. Noggings, bearers, etc. to support sanitary appliances and fittings: Position accurately. Fix securely.

630 Tiled backgrounds other than splashbacks

1. Timing: Complete before fixing appliances.
2. Fixing appliances: Do not overstress tiles.

650 Installing WC pans

1. Floor-mounted pans: Screw fix and fit cover caps over screw heads. Do not use mortar or other beddings.
2. Seat and cover: Stable when raised.

670 Installing cisterns

1. Cistern operating components: Obtain from cistern manufacturer.
2. Inlet and flushing valves: Match to pressure of water supply.
3. Internal overflows: Into pan, to give visible warning of discharge.
4. External overflows: Fix pipes to falls and locate to give visible warning of discharge. Agree location where not shown on drawings.

710 Installing taps

1. Fixing: Secure against twisting.
2. Seal with appliance: Watertight.
3. Positioning: Hot tap to left of cold tap as viewed by user of appliance.

720 Installing wastes and overflows

1. Bedding: Waterproof jointing compound.

2. Fixing: With resilient washer between appliance and backnut.

Ω End of Section

N14
General internal signage systems

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Wayfinding signage system

1. Description: TBC to be developed during Stage 4 detailed design by consultant team with client. Make reference to Signage report: HCC-HBA-ZZ-ZZ-RP-A-000105
2. System manufacturer: xSign systems or acceptable equivalent

115 Wall graphics

1. Description: Coloured self-adhesive cut-out vinyl/painted supergraphics.
   Design: TBC to be developed during Stage 4 detailed design by consultant team with client.
2. System manufacturer: 3M or acceptable equivalent

120 Inclusive signage systems

1. Description: As required. TBC to be developed during Stage 4 detailed design by consultant team with client.
2. System manufacturer: Submit proposals.

130 Joinery Signage System

1. Description: 50mm x 50mm stainless steel signage on joinery cabinets indicating bins, dishwashers.
   TBC to be developed during Stage 4 detailed design by consultant team with client.
2. System manufacturer: Submit proposals.

System performance

210 General requirements

1. Signage system: Complete to BS 559, including facing information, components, inserts, accessories and fixings necessary to complete the system.
   1.1. Comply with the requirements of: TBC with client.
2. Geometric shapes, colours and layout: In accordance with BS ISO 7001.
3. Design standard for disabled people: In accordance with BS 8300-2.
4. Proposals: Submit drawings, schedules, technical information, calculations and manufacturer's literature.

240 Fire performance

1. Description: All signage systems
   1.1. Reaction to fire: In accordance with Building Regulations guidance

280 Design life

1. Description: All signage systems.
2. Duration: Ten years
   2.1. Subject to reasonable wear and tear.
3. Condition of use: Subject to regular maintenance.

290 Signage samples

1. Sign type: All signage types.
   1.1. Action: Submit labelled samples.
   1.2. Conformity: Retain samples on site for the duration of the contract, or until instructed to remove them.
   1.3. Delivered product: To conform with labelled samples.

295 Signage samples board

1. Samples board: Submit.
   1.1. Content: Selected labelled signs, showing methods of fixing.
   1.2. Conformity: Retain samples on site for the duration of the contract or until instructed to remove.
   1.3. Delivered product: To conform with labelled samples.

Products - Not Used

Execution

610 Fixing signs generally

1. Installation: Secure, plumb and level.
2. Strength of fasteners: Sufficient to support all live and dead loads.
3. Fasteners and or adhesives: As section Z20.
4. Fixings showing on surface of sign: Must not detract from the message being displayed.

620 Fixing signs for the visually impaired

1. Protection of users
   1.1. Fasteners for tactile/ Braille signs must not have sharp edges or protrusions that would cause confusion or injury to users.

670 Electrical and data services

1. Services connection required: As MEP specification.
2. Standard: In accordance with BS 7671.
3. Coordinate with services trades.

Completion

910 Documentation

1. Submit
   1.1. Manufacturer's maintenance instructions.
   1.2. Guarantees, warranties, test certificates, record schedules and logbooks.

920 Spares

1. Supply as follows
   1.1. Type: To be agreed with Client Representative.
   1.2. Quantity: To be agreed with Client Representative.

930 Specialist tools

1. Supply as follows: Any specialist tools required for maintenance of signage.

Ω End of Section

N15
Internal fire and safety signage systems

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Complete the Detailed Design of this element of the works maintaining the intent of the Design. Post contract award this will not be undertaken by the novated Architect.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Fire and safety signage systems - Fire Escape (Illuminated)

1. Description: FOR ESCAPE ROUTE
2. System manufacturer: Signbox or acceptable equivalent
   2.1. System reference: Submit proposals
3. Location and layout: As required to comply with Building Regulations Approved Document B, and Fire Engineering Strategy
   3.1. Sign type: Illuminated acrylic block with anodised aluminium mount.
   3.2. Language: English.
4. Material: Submit proposals
   4.1. Other properties: Illuminated
5. Other requirements:
   - Statutory signage, to include all fixings, bracketry, support framing and accessories necessary to complete the works, as the Design Drawings.
   - Clear edges required to all acrylic signage, including fire escape signs, to be developed in conjunction with the Client and the branding consultant.
   - To be co-ordinated with the Services Engineer's documentation.
   - Safety signs and the exit signs throughout the escape routes to be illuminated to the latest format to the European Sign Directive Format (BS 5266: Part 1, BS EN 50172 and BS EN 1838 and HSE safety signs and signals regulations, as applicable) and in compliance with any additional local authority requirements.

111 Fire and safety signage systems - Fire Escape (Photoluminescent)

1. Description: FOR ESCAPE ROUTE
2. System manufacturer: Signbox or acceptable equivalent.

2.1. System reference: Submit proposals

3. Location and layout: As required to comply with Building Regulations Approved Document B, and Fire Engineering Strategy

3.1. Sign type: i) Self adhesive metal discs to all doors
ii) 'Emergency Exit Keep Clear' signs where required.
iii) 'Automatic Fire Door Keep Clear' signs where required.
iv) Clear edges required to all acrylic signage, including fire escape signs, to be developed in conjunction with the Client and the branding consultant.
v) Other signage required to complete installation, as required to comply with fire strategy and Building Regulations Approved Document B.
v) refer to ironmongery schedule for door signage

3.2. Language: English.

4. Material: Submit proposals

4.1. Other properties: Photoluminescent

112 Fire and safety signage systems [Fire Equipment - Photoluminescent]

1. Description: FOR FIRE EQUIPMENT
2. System manufacturer: Signbox or acceptable equivalent.

2.1. System reference: Submit proposals

3. Location and layout: As required to comply with Building Regulations Approved Document B, and Fire Engineering Strategy

3.1. Language: English.

4. Material: Submit proposals

4.1. Other properties: Photoluminescent

System performance

205 Design of internal signage systems

1. Description: General
2. Design: Complete detailed design and submit before commencing work.
3. Content: Signs including facing information, components, inserts, accessories and fixings necessary to complete the system.
4. Proposals: Submit drawings, schedules, technical information, calculations and manufacturer's literature before commencing work.

210 General requirements

1. Signage and way guidance system design: Submit proposals

1.1. For fire escape and evacuation signage: In accordance with: BS 5499-4 or BS ISO 16069.

1.2. For way guidance systems: In accordance with BS ISO 16069.

1.3. For safety signs other than escape route signage: In accordance with: BS 5499-10.

2. Comply with the requirements of: Fire Strategy Report and Building Regulations Approved Document B.

220 Sign design and format

1. Format: In accordance with BS EN ISO 7010
2. Geometric shapes, colours and layout: In accordance with BS ISO 3864-1.

3. Design principles for graphical symbols: In accordance with BS ISO 3864-3.
4. Colorimetric and photometric properties of safety sign materials: In accordance with BS ISO 3864-4.
5. Water safety: In accordance with BS EN ISO 7010.

260 Photoluminescent properties

1. Description: For escape route signage and fire equipment
2. Luminance delay classification to BS ISO 17398: Submit proposals

270 Fire performance

1. Description: Fire escape signage system
2. Reaction to fire
   2.1. Standard: Non flammable surface - to Building Regulations Approved Document B

280 Design life of fire signage samples

1. Duration: Ten years.
   - Subject to reasonable wear and tear.
2. Condition of use: Subject to regular maintenance.

290 Signage samples

1. Provide samples of each type
2. Action: Submit labelled samples to Architect's approval
3. Conformity: Retain samples on site for the duration of the contract or until instructed to remove.
4. To conform with labelled samples

Products - Not Used

Execution

610 Fixing signs generally

1. Installation: Secure, plumb and level.
2. Fasteners and adhesives: As section Z20.
3. Strength of fasteners: Sufficient to support live and dead loads.
4. Fixings showing on surface of sign: Must not detract from the message being displayed.

Completion

910 Documentation

1. Submit
   1.1. Manufacturer's maintenance instructions.
   1.2. Guarantees, warranties, test certificates, record schedules and logbooks.

920 Spares

1. Type: Escape route signs for communal and service areas and warning signs
2. Quantity: 2 of each type

930 Specialist tools

1. Supply as follows: One set of suspension adjustment tools

Ω End of Section

N25
Permanent access and safety equipment

Types of system/ equipment

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

210 Personal fall protection equipment - Guided fall restraint system

1. Description: Fall protection to all roof areas.
2. Manufacturer: Latchways plc - an MSA Brand or acceptable equivalent
   - 2.1. System reference: Latchways Constant Force post (CFp) Type 2 and Intermediate (INT) post Horizontal Lifeline Systems or acceptable equivalent.
3. CDM compliance: Original system design and all subsequent modifications to be compliant with the Construction (Design and Management) (CDM) Regulation 2015
4. EN Standards:
   - 4.1. Compliant with EN 795:2012 (Type A & C) Personal fall protection equipment - Anchor devices for one user. Evidenced by a Declaration of Conformity detailing the product, the European Standard, name of the independent Notified Body and date.
   - 4.2. Compliant with CEN/TS 16415:2013 (Type A & C) Personal fall protection equipment - Anchor devices recommendations for use by more than one person simultaneously. Evidenced by a Declaration of Conformity detailing the product, the European Standard, name of the independent Notified Body and date.
5. Installation & Testing: Tested in accordance with BS 7883:2019 and EN 795:2012. Installed in accordance with manufacturer's instructions by a Latchways Registered Installer.
6. Fixing Methods: Mechanical attachment through the insulation to various decks in accordance with our current data sheet CFp-99-01 using Latchways appropriate fixing kits.
7. System Data Specific Site:
   - 7.1. Location: Refer to preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100)
   - 7.2. Overall system length: 500m.
   - 7.3. Access requirements: Gutters, PV Panels, MEP Plant and maintenance on the roof areas
   - 7.4. Intended purpose of access: Maintenance / Inspection
   - 7.5. Design layout reference number: LWD 8245
8. Component data:
   - 8.1. Constant Force Post Type 2: To be used on start, end and corner locations.

- PVC – P/N: 67616-00
- Bitumen – P/N: 67619-00
- TPO – P/N: 67766-00
- EPDM – P/N: 67619-00
- FPO – P/N: 67755-00 (Weathering cap required P/N: 67663-00) (TBC)
- TPE – P/N: 67617-00
- Other – P/N: 67755-00 (Weathering cap required P/N: 67663-00)

8.2. Constant Force post Intermediate: To be used on intermediates ONLY. (The maximum span between posts shall be 12.5 m depending on the available ground-clearance on-site.)

- PVC – P/N: 65616-00INT
- Bitumen – P/N: 65619-00INT
- TPO – P/N: 65766-00INT
- EPDM – P/N: 65619-00INT
- FPO – P/N: 65755-00 (Weathering cap required P/N: 65663-00INT) (TBC)
- TPE – P/N: 65617-00INT
- Other – P/N: 657755-00INT (Weathering cap required P/N: 65663-00INT)

8.3. Wire Rope/Cable: To be Ø 8mm 7x7 316 (1.4404) grade stainless steel wire rope with a 38 kN minimum breaking load.

8.4. Cable Terminations: Swaged termination manufactured from 316 (1.4404) grade stainless steel to include a visual swage slip indicator, system tensioning device and tension indicator pre-set to 0.8 kN (180lb).

8.5. Extremity, Corner and intermediate brackets: To be manufactured from electropolished 316 (1.4404) grade stainless steel.

9. System Performance Specification:

9.1. Each Start/end - or corner post (Type 2) will contain a 316 (1.4404) grade stainless steel energy absorbing coil and mechanism that enables the coil and post body assembly to deploy in a predictable manner, in any direction and at a controlled rate.

9.2. Each intermediate post (INT) will contain a 316 (1.4404) grade stainless steel energy absorbing mechanism that enables the post body assembly to deploy in a predictable manner, in any direction and at a controlled rate.

9.3. Deployment of an anchor device(s) shall occur without damage / loss of integrity of the roof and overall water tightness.

9.4. Each end-or corner post (Type 2) will be capable of absorbing 3900 Joules (J) of energy whilst limiting the load transferred to the roof to 6.5 kN (1461lb) (up to 4 users at 100 kg each) and 10 kN (2248lb) (up to 6 users at 100 kg each in non-constant force applications).

10. Number of Users:

10.1. The system will be suitable for unrestricted access by up to four users (at 100 kg each) at any one time and at any point along the length of the system including between two posts by transferring a maximum load of 6.5 kN (1461lb) to the roof structure or 10 kN (2248lb) for six users (at 100 kg each) in non-constant force applications.

10.2. The system will be suitable for unrestricted access by up to three users (at 140 kg each) at any one time and at any point along the length of the system including between two posts by transferring a maximum load of 6.5 kN (1461lb) to the roof structure or 10 kN (2248lb) for four users (at 140 kg each) in non-constant force applications.

11. 1. PPE – 1 x set of PPE includes the below items (Minimum 2 x Sets to be provided with proposed systems):

11.1. Removable Transfastener x 1 (P/N: 85085-00)

11.2. Latchways Personal Rescue Device x 1 (P/t: 68202-00L)

11.3. Energy Absorbing Lanyard/Maximum Length Work Positioning Rope x 1: Refer to LWD drawing for full specification.

Design/ performance requirements

430 Safety

1. General: The equipment as installed must have no irregularities/ projections capable of inflicting personal injury.
2. Finished surfaces and edges of all accessible parts: Regular and smooth.
3. Performance requirement in event of a fall: System should perform without damaging the integrity of the roof structure in the event of deployment, in accordance with aforementioned standards.

440 Design life/ Maintenance programme

1. Design life of access/ safety system: Not less than 20 years in an inland environment and 15 years in a marine environment.

460 Assessment/ Testing of anchor devices

1. Design and testing of anchors: For fixing into structural steel, concrete and timber decks in conjunction with the Constant Force™ post for Single Ply roofing which has been tested by Latchways Plc and approved by the National Engineering Laboratory to EN 795:2012. Latchways Constant Force™ post complies with EN 795:2012 and CEN/TS 16415: 2013.
2. Salt Testing - The combination of the coating applied to the post elements will be compliant to EN 12206-1:2004 and have been tested to the following methods with the specified results:
   2.1. 1,000 hours of neutral salt spray according to ASTM D1186, method B without any signs of corrosion, coating separation nor reduction in sheen.
   2.2. 1,000 hours of acetic acid salt spray according to ISO 2360:2003 without any signs of corrosion in any finishes.

Fabrication, assembly and installation

510 Fabrication and assembly generally

1. Manufacturing Plant: All fabrication is carried out in the ISO accredited OEM manufacturing facility. Limited assembly and drilling of the deck are required on site. Obtain approval for any reassembly on site.
2. Dissimilar metal surfaces of assembly components/ supports/ fixings: Isolate to prevent electrolytic corrosion.

520 Protection

1. General: Do not deliver to site any components or assemblies that cannot be installed immediately or unloaded into a suitable well protected storage area.

530 Suitability of structure/ fabric

1. Visual and geometric survey of supporting structure and fabric: Carry out before commencing installation of access/ safety system. Report immediately if structure/ fabric will not allow required accuracy/ security of erection/ fixing and if structural testing is required.

540 Mechanical fixings

1. Materials:
   1.1. Connecting bolts and other fixings fully accessible for inspection: To be 316 (1.4404) grade stainless steel.

550 Fasteners, inserts and bolts for building in

1. Supplier: Equipment manufacturer/ supplier.

560 Fixings for securing equipment

1. Adjustment capability: Adequate three dimensional adjustment to accommodate building structure/ fabric irregularities.

570 Fixing anchor installation

1. Site drilling or cutting into structure/ fabric: Permitted only in approved locations.
2. Distance between all fixing devices and edges of supporting material: Not less than recommended by fixing manufacturer.

640 Marking of anchor devices

1. Labelled according to EN 795:2012 Type A & C and EN 365:2004 General requirements for instructions for use:
   1.1. Manufacturer's name and telephone number.
   1.2. Periodic exam
   1.3. Repair
   1.4. Marking
   1.5. Packaging
   1.6. Serial number
   1.7. Maximum number of personnel that may be attached to the device at any one time.
2. Anchor devices intended solely for use with personal protective equipment: Indicate restriction of use by pictogram or other suitable marking on or near the device.

810 Service/ Maintenance

1. General: Following acceptance of the completed installation, service and maintain the equipment for the period stated below as and at intervals recommended by the manufacturer. Such maintenance to include a ‘call-out’ service during normal working hours to maintain the equipment in an acceptable and safe condition.
2. Service/ Maintenance period: 12 months

820 Operating instructions

1. General: Instructions to be supplied with the system once installation have been completed.

830 Operating and maintenance manual

1. General: Latchways Registered Installer to provide site specific instructions and recommended procedures for operating and routinely maintaining the equipment. Provide diagrams where appropriate.
2. Content

2.1. Comprehensive operating instructions, including safety and emergency procedures, for all motions including upward, downward and lateral travel, and slew.

2.2. Servicing and planned maintenance procedures, including assembly instructions where maintenance necessitates dismantling of machinery parts.

2.3. List of replacement parts, with references.

2.4. Recommended procedures for testing equipment.

840 As installed drawings

1. General: After commissioning/ testing of the equipment provide as installed drawings for inclusion in the Building Manual.
   1.1. Number of sets: One hard and soft copy.
2. Drawing content
   2.1. Contractor's name and contract number.
   2.2. Location and date of installation.
   2.3. Manufacturer's name, model and type numbers.
   2.4. General arrangement of the complete installation.
   2.5. Electrical circuit wiring diagrams complete with details and ratings of all items of equipment.

Ω End of Section

P10
Sundry insulation/ proofing work

Types of insulation

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

185 Soffit insulation - Bin stores

1. Description: Soffit insulation to bin stores.
2. Manufacturer: Rockwool or acceptable equivalent.
   2.1. Product reference: Rockwool Soffit Slab (product number: 239238) or acceptable equivalent.
3. Material: Mineral wool.
4. Thickness: 210mm to achieve overall U-value through soffit of 0.15W/m2K
5. Facing: Black tissue facing to outer face.
6. Installation requirements:
   6.1. Joints: Butted, no gaps.
   6.2. Fixing: To underside of concrete soffit slab.
      6.2.1. Fasteners: Galvanised steel fixings as manufacturer's recommendations.
7. Other requirements: To all manufacturer recommendations.

186 Above ground floor slab insulation and void former

1. Description: Above slab insulation and void former where required to ground floor of annex.
2. Manufacturer: Foamglas or acceptable equivalent.
   2.1. Product reference: FOAMGLAS® SLAB T3+ or acceptable equivalent.
3. Material: Foamglas
4. Thickness: Varies as floor types:
   - 150mm to achieve overall U-value through slab of 0.1W/m2K
   - 300mm using double layer of 150mm fully bonded with filled joints as recommended by manufacturer.
5. Reinforcing mesh: Coat of PC74A1 with PC150 mesh as manufacturer recommendations.
6. Installation requirements:

6.1. Joints: Butted, no gaps.

6.2. Fixing: Adhere insulation onto floor slab with FOAMGLAS® adhesive.

7. Other requirements: To manufacturer's recommendations to achieve point loading as noted in raised access floor K41 section.

Ω End of Section

P12
Fire-stopping systems

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

002 Scope

1. The scope of this specification includes:
   1.1. Fire-stopping around service cables, ducts or pipes penetrating architectural elements.
2. This specification excludes:
   2.1. Cavity barriers to facades see **H92** Section and **EOC performance specification.**
   2.2. Cavity barriers within demountable suspended ceiling systems - See **K40** section
   2.3. Cavity barriers within raised access floor systems - See **K41** section
   2.4. Fire stopping to partition deflection heads - See **K10** section
   2.5. Fire stopping to blockwork deflection heads - See **F30** section
   2.6. Fire stopping to fire rated doorset surrounds - See **L20** section
   2.7. Products to suit usage outside proprietary systems - to suit performance requirements as per specialist subcontractor requirements
   2.8. **Fire collars - to MEP subcontractor design.**
   2.9. **Cast in fire sleeves - to MEP subcontractor design.**
   2.10. Fire dampers to MEP - refer to Services Engineers information.

130 Fire-stopping system to simple individual services penetrations

1. Description: Fire stopping to simple / singular penetrations within plasterboard walling.
2. Manufacturer: As per K10 Plasterboarding package supplier.
3. Fire resistance: As clause P12/240
4. Acoustic performance: As clause P12/250
5. Installation: To be strictly in accordance with manufacturer's details to to suit the:
   - fire rating
   - size of opening
   - material of the services

- size of the services
- deflection/movement of structure & services

6. Penetration seal: As recommend by manufacturer
   6.1. Size: To not exceed manufacturer's limits for simple service penetrations. Where penetrations exceed these requirements, employ P12/140.
7. Gap sealer: As recommened by manufacturer
8. Capping sealant: As recommened by manufacturer
   8.1. Colour: White

140 Fire-stopping system to multiple services penetrations

1. Description: Fire stopping around service openings in partitions walls
2. Manufacturer: Hilti (Gt Britain) Ltd. or equivalent approved
3. Fire resistance: As clause P12/240
4. Air tightness: As clause P12/245
5. Acoustic performance: As clause P12/250
6. Installation: To be strictly in accordance with manufacturer's details to to suit the:
   - fire rating
   - size of opening
   - material of the services
   - size of the services
   - deflection/movement of structure & services
7. Products: As per P12/300
8. Gap sealer: As recommended by manufacturer
9. Capping sealant: As recommended by manufacturer
   9.1. Colour: White

System performance

210 Design

1. Design: Complete the installation design of the fire-stopping system to suit specific service arrangements in accordance with manufacturers requirements.
2. Proposals: Submit typical drawings, technical information, calculations and manufacturers' literature.

220 Non-compliance to manfufacturer's tested system

1. Should the fire stopping condition identified not comply with the limits of the manufacturer's tested and certifed system, it is to be brought to the attention of the Principal Contractor as soon as is practicable for review.
   1.1. Site conditions : Where service penetration materials, sizes, or spacing as installed on-site differ from that initially designed - work shall not proceed.
   1.2. System proposed: Where the proposed system and products to seal a penetration do not have evidenced test data and supporting manufacturer technical information to support the installation in the specific instance - work shall not proceed.
2. Any elements requiring an Engineering Judgement are to be raised as soon as ins practicable so that alternative methods of compliance can be considered first. Should any Engineering Judgement be required, these are to be scheduled and documented clearly for approval.

3. Installation shall not commence unless a competent professional installer is satisfied that the proposed system shall satisfactorily achieve the fire stopping to the specific

240 Fire performance

1. Description: As per Fire Strategy drawings.
2. Resistance to fire: To BS EN 13501-2, EI60 or EI120 to suit adjacent construction fire resistance
3. Reaction to fire: To BS EN 13501-1, Class A1 / A2-s1,d0 generally unless where required to fufill fire stopping performance requirements, such as ensuring protection of fire stopping for full design life or intumescent compounds.
4. Smoke resistance
    4.1. Air leakage rate (maximum): None permitted for the length of duration of fire resistance

245 Air tightness

1. Description: Where required to fire stopping present on the thermal envelope
2. Air leakage rate:: To not exceed 3m3/m2/hr @ 50Pa

250 Acoustic Performance

1. Description: As per Acoustician Strategy Drawings
2. Acoustic performance: To match the performance of the adjacent construction.

260 Design life

1. Effective design life: 30 years

Products

305 Product certification

1. Certification: For products specified generically, submit evidence of compliance with the specification.
2. Acceptable evidence: Third-party certification by UKAS certified laboratories or European Technical Assessment (ETA)

390 Sealant

1. Type: Fire-resisting silicone
2. Manufacturer: ROCKWOOL or acceptable equivalent
    2.1. Product reference: ROCKWOOL Fire rated silicone sealant

Execution

610 Third-party-certified installer

1. Certification: For the technical competency of the installer of the evidence of compliance with a third-party installation certification scheme.
2. Acceptable evidence: Provide one of the below:
    - LPCB Certification
    - UKAS Accreditation Certificate
    - FIRAS Installer Certification
    - FPA

- Fire Industry Association
- Association for Specialist Fire Protection

620 Workmanship generally

1. Gaps: Seal between building elements and services, to provide effective resistance to fire and the passage of smoke. Allow for capping sealants where required. Finish flush with surrounds where possible.
2. Adjacent surfaces: Prevent overrun of filler, sealant or mortar on to finished surfaces.

640 Installing boarding

1. Position of boarding: Within opening
2. Framing: Where required to suit performance requirements.
3. Bedding: As recommended by manufacturer
4. Multiple board layers: Stagger joints between layers.
   4.1. Joints: Seal in accordance with manufacturers recommendations
5. Fixing: Strictly in accordance with manufacturers requirements

650 Installing flexible intumescent gap sealer

1. Fitting of strips: Friction Fit. Compress strips and fit into gap so that, as they decompress, the strips wedge themselves in the void.
2. Joints
   2.1. Ends of strips: Fit intumescent 'end piece' at both ends of run of fire stop laminate.
   2.2. Joints between strips: Fit two intumescent 'end pieces' at each butt joint.

680 Installing intumescent pillows

1. Number of pillows (per m^2 of opening): Number necessary to achieve fire resistance
2. Orientation of bags: As recommended by manufacturer

710 Installing mineral wool batts

1. Installing batts: Fit tight into void between the penetrating services and the surrounding construction to form a solid barrier.
   1.1. Brackets: Where required to suit opening as indicated by manufacturer
      1.1.1. Bracket fixing: As per manufacturers instructions
2. Face of batts: Flush with the surface of wall, floor or soffit.
3. Joints between batts: Butt joints, seal with fire-resisting sealant
4. Gaps between services and barrier: Seal with fire-resisting sealant.

730 Fixing pipe collars

1. Collar fixing: As recommended by manufacturer
2. Gap around collar: As per manufacturers standard detail
3. Length of wraps: To suit penetration, services, and fire rating

740 Inserting sealant backing material

1. Preparation: Removed debris from service penetration.

2. Installation: As per manufacturers recommendations

745 Applying sealants generally

1. Application: As section Z22.

750 Applying capping sealant

1. Preparation: De-grease using cleaner recommended by sealant manufacturer
2. Priming: Primer recommended by sealant manufacturer
3. Depth of sealant: As per manufacturer's recommendation
4. Temperature: Do not apply water-based sealants when they could be damaged by frost.

Completion

910 Cleaning

1. Masking tapes: Remove.
2. Cleaning: Clean off splashes and droppings. Wipe down finishes.

920 Inspection

1. Installer inspection: Each individual service penetration, or combined service penetration to be inspected
   1.1. Competency: Inspection shall be by a competent professional with third party accreditation under a UKAS scheme and manufacturer accreditation specific for the systems used.
   1.2. Documentation: As per clause P12/930
2. Principal Contractor : Inspections
   2.1. Requirement: Following self inspection and certification of installation, fire stopping shall be presented to the Principal Contractor for approval to their satisfaction, and any third party deemed necessary; such as Client, Faculties Manager, Approved Inspector, Building Control Officer, Fire Engineer, Statutory Authority, Fire Rescue Services.
   2.2. Notice for inspection (minimum): Three working days or agreed otherwise with Principal Contractor
   2.3. Closing up:: The Principal Contractor shall ensure that no elements of fire stopping works are closed up without Inception, approval and audit-able QA record or completion.

930 Documentation

1. UKAS Certified QA system to be employed
2. Each individual element of fire stopping to be visually documented on completion
3. Full records are to be provided to the Principal Contractor for inclusion in O&M manuals & H&S File.

Ω End of Section

P20
Unframed isolated trims/ skirtings/ sundry items

To be read with preliminaries/ general conditions

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

115 Timber procurement

1. Timber (including timber for wood-based products): Obtained from well managed forests and/ or plantations in accordance with:
   1.1. The laws governing forest management in the producer country or countries.
   1.2. International agreements such as the Convention on International Trade in Endangered Species of wild fauna and flora (CITES).
2. Documentation: Provide either in accordance with chain of custody certification scheme requirements:
   2.1. Documentary evidence (which has been or can be independently verified) regarding the provenance of all timber supplied or
   2.2. Evidence that suppliers have adopted and are implementing a formal environmental purchasing policy for timber and wood-based products.
3. Chain of Custody Certification scheme: Contractor's choice in accordance with UK Government timber procurement policy (UKTPP), i.e. FSC, GiB or PEFC.

130 Existing timber curtain track recess edging - Council chamber

1. Repair as C51,.
   - Clean as C51/750, lightly sand and apply a new finish as M60/161.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.

131 Existing timber linings to openings to lobby

1. Repair as C51.
   Clean as C51/750, lightly sand and apply a new finish as M60/161.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.

135 Existing timber window cills / surrounds

1. Existing timber window cills / surrounds to be retained where possible. For general repair refer to C51.
2. All the window cills / timber surrounds should be retained in final work - remove, salvage and store for re-installation as C51/720. Elements appear to be oak but specialist subcontractor to check wood type prior to work commencing.
3. Clean as C51/750, lightly sand and apply a new finish as M60/161.
4. Any cills / surrounds that are missing should be replaced to match in timber type, grain density, and general colour.

140 Existing timber plinths for radiators

1. Existing timber radiator plinths in lobby - oak facias to front and two sides, softwood tops nailed down. For general repair refer to C51.

   Refer to:
   - Internal scope of works schedule document HCC-HBA-CC-XX-SH-A-400001.
   - Room data sheets.
   - General note 001 above.
2. Fascias and top to be cleaned as C51/750, lightly sanded and applied with a new finish as M60/161.

150 Existing aluminium curtain track recess edging

1. To be repaired and cleaned to specialist subcontractor recommendations.
   Refer to internal scope of works schedule.

151 Existing aluminium skirting

1. Description: Replace existing aluminium skirting with new product to match existing shape and finish
2. Finish: Anodized aluminium with satin finish
3. Heights: Nom. 90-100mm. Subcontractor to check on site and match existing heights
4. Accessories: Corners end caps and joints using manufacturers parts and instructions with finish to match
5. Sample manufacturer: Progress Profiles or acceptable equivalent.
   5.1. Sample product reference: Skirting 100 (finish: silved anodised) or acceptable equivalent

152 Existing brass ventilation grilles to Council Chamber Timber paneling

1. To be repaired, cleaned and reinstalled to specialist subcontractor recommendations.
   Refer to internal scope of works.

200 Medium density fibreboard skirtings, cill boards and other internal timber

1. Manufacturer: Submit proposals.
   1.1. Product reference: Submit proposals.
2. Standard: To BS EN 622-5.
   2.1. Type: MDF (Moisture Resistant MDF (MDF.H) where used in wet area).
   2.2. Formaldehyde class: To BS EN 622-1, Class E1.
3. Reaction to fire rating: Class B-s3, d2 or better
4. Thickness: Varies subject to location
   - Skirtings:18mm
   - Cil boards: 25mm
5. Height: Varies subject to location
   - Skirtings: 100mm
   - Cil boards: 20mm projection from wall
6. Edges: Varies subject to location
   - Skirtings: Square.
   - Cil boards: Pencil round top edge and notched and rounded returned ends.
7. Finish: Factory sprayed - prepared and primed as section M60.
8. Recycled content: Submit proposals.
9. Support/ Fixing: Screwed and pelleted, conceal screw fixings. Centres to provide adequate support subject to location.
10. Other:
    10.1. All visible surfaces to be sanded to give smooth, flat surfaces suitable to receive specified finishes. Arrises to be eased unless specified otherwise.
    10.2. Before fixing, timber end grains for external components to be sealed with primer and allowed to dry.
    10.3. Protect complete items against damage, dirt, moisture and other deleterious substances.
    10.4. Maintain moisture content of timber and wood based boards during storage and installation, within the range specified for the component.
    10.5. All finishes to be compatible with the finishes specified for adjacent materials.

450A Proprietary edge profile - To wall tiles

1. Description: To wall tiles as M40 where required.
2. Manufacturer: Schlüter® or acceptable equivalen
   2.1. Product reference: Jolly EB or acceptable equivalent
3. Type/ Size: J 100 EB to suit tile depth
4. Finish/Colour: Stainless Steel
5. Fixing: Adhesive
6. To be used with Schlüter Jolly EB/EV corner connectors as per manufacturer's recommendations.

Execution

510 Installation generally

1. Joinery workmanship: As section Z10.
2. Metal workmanship: As section Z11.

3. Methods of fixing and fasteners: As section Z20 where not specified.
4. Straight runs: To be in one piece, or in long lengths with as few joints as possible.
5. Running joints: Location and method of forming to be agreed where not detailed.
6. Joints at angles: Mitre, unless shown otherwise
7. Position and level: To be agreed where not detailed.

Ω End of Section

Q37
Green roofs

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Level of detail within specification shown to match manufacturer's information to allow warranty.
4. Subcontractor to ensure that system is validated in accordance with all latest manufacturer recommendations at time of procurement. Always refer to current manufacturer literature and highlight any discrepancies to Contract Administrator.
5. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

130 Extensive green roof

1. Description: Green roof system - RFS-FG1 & RFS-FG2
2. Substrate: New Concrete Deck
   Note: The loading of the proposed green roof system/landscaping needs to be accounted for in the design and construction of the structural deck, both during construction and then after.
3. Slope: 1:60
4. Waterproofing system: Bauderflex Green f System - as per J41-112.
5. Protection layer: Bauder FSM600 - 4mm protection fleece. Installation as clause 750C.
6. Drainage layer: Bauder DSE40 - drainage / water storage panel. Installation as clause 770E.
7. Filter membrane: Bauder Filter Fleece. Installation as clause 780A. (Over DSE40 only).
8. Growing medium: To landscape designer specification.
9. Landscaping depth: To landscape designer specification.
10. Vegetation: To landscape designer specification.
11. Accessories: - Bauder AL150 drainage and retention trim, fitted to all open perimeters and protrusions to contain a pebble vegetation barrier. Installation as clause 820B.
    - Project specific drip line irrigation system (designed and supplied by others), as clause 463A. Installation of irrigation pipe work to the waterproofing as clause 825
    - Bauder ALU 250 Inspection chamber, to be installed over all internal rainwater outlets within soft landscaping areas. The lid of the chamber must be level with, or higher than the surrounding landscaping. For landscaping exceeding 100mm, additional height adapter units (available in 50mm or 100mm depths) must be used to achieve the required chamber depth, with the chamber lid being at least level with the surrounding landscaping or higher. Installation as clause 830.

- 20 - 40mm round washed pebble vegetation barrier provided at all perimeters and protrusions, as clause 460. Installation as clause 840

12. Additional requirements: As clauses 210, 710, 715A, 720, 910, 915D, 916, 920, 930.

Performance

210 Contractor's design of green roofs

1. Design responsibility: Complete the detailed design of the green roof.
2. Structural and fire requirements
   2.1. Generally: To structural engineer and fire consultant information.
   2.2. Design: Complete the design in accordance with the designated code of practice to satisfy specified performance criteria.
3. Functional requirements
   3.1. Performance: As specified in this section, preliminaries and corresponding work sections.
4. Additional requirements: Responsibility and coordination at design interfaces.
5. Design and production information: As preliminaries specification. Submit drawings, technical information, calculations and manufacturers literature.

255 Maximum permitted green roof loads

1. General: As per structural engineer's requirements.

Products

460 Pebble ballast

1. Type: Washed, round pebbles.
2. Size: Graded 20-40mm and free from fines and sharps.
3. Supplier: Locally sourced.
4. If required allow for ballast netting system to prevent birds from picking up ballast and dropping by Eco Enviromental or acceptable equivalent.

463A Irrigation

1. Supplier: Access Irrigation Ltd. Crick, Northampton NN6 7XS
   Tel: 01788 823811, Fax: 01788 824256, E-mail: sales@access-irrigation.co.uk
2. Product reference: Permadrip Pro - drip line irrigation system with anti-syphon design to resist clogging and pressure regulation.
3. Material: Perforated UV resistant plastic - Colour: Dark Brown
4. Height: 10mm
5. Operating range: 0.8 -4.3bar.
6. Wall thickness: 1.2mm
7. Nozzle output: 1.6L/h
8. Spacing: 150mm.
9. Pipe connection: For Bauder Green/Blue Roofs, all irrigation systems using Permadrip Pro must use PoziLock compression fittings for both the dripline and water feed pipework. Barbed connectors are not permitted.
10. Location:

10.1. Bauder Vegetation Blankets: Irrigation system to be installed flush with the surface of the vegetation blanket and tested to ensure that it is fully operational.

10.2. Bauder Plug Plants, Flora Seeded Systems & Biodiversity: Irrigation system to be installed flush with the surface of the growing medium and tested to ensure that it is fully operational prior to installation of the vegetation.

11. Design: The design, water pressure, positioning and spacing of the drip line is critical to the performance and effectiveness of the system. Therefore, the irrigation scheme for each project should be designed accordingly to ensure it is fit for purpose. Irrigation is a specialist subjects and Access Irrigation Ltd provide a design service and can assist with information pertaining to any individual project upon request.
12. IMPORTANT NOTE: These are permanent irrigation systems and do not negate the need for the establishment watering regime.

Execution

710 Installation generally

1. Preparation: Clear all surfaces of debris.
   1.1. Timing: After certification of waterproof membrane integrity.
   1.2. Surface condition: Visually inspect waterproof membrane, report any damage.
2. Faults in waterproof membrane: Report.
3. Contamination: Do not use materials detrimental to healthy plant growth.
4. Storage: Do not overload.
   4.1. Point loads: Avoid.
5. Outlets: Do not block.
   5.1. Outlet grilles: Installed (these can be omitted where Bauder inspection chambers are used, if the grille cap height obstructs the closing of the chamber lid).

715A Landscaped roof related requirements

1. The following are vital to the accurate pricing, correct installation, and ultimately the long-term life of a green/blue roof, and must, therefore, be included within the specification and tender documents: -
2. Loadings: It is assumed that the architect or his advisors have satisfied themselves that the roof structure and deck are suitable to receive the dead load of the proposed green/blue roof system and landscape both during construction and on completion of the works.
3. Additional protection: A planned or contractual delay between the installation of the waterproofing and landscape will almost certainly necessitate additional/increased protection to the waterproofing. This protection may be temporary or permanent. The responsibility and cost of this possible extra protection should be clearly included within the tender documents.
4. Detailed drawings: Correct detailing design and construction is essential to the long-term life of the green/blue roof. It is essential, therefore, that detail drawings illustrating for the construction are included with the tender documents, in order to enable the contractor to tender accurately.
5. Minimum upstand height requirements: The waterproofing should be taken up all abutment upstands, pipes, detailing protrusions etc. a minimum of 150mm above finished landscape surface level to comply with British Standards and current code of practice BS8217:2005.
6. Provision for living products in hot weather conditions: During hot weather conditions, living products such as plants, turf, sedum blankets etc. must be laid on the day of delivery to site. With regard to sedum blankets or turf, any rolls not installed should be laid out and kept watered prior to final installation.

7. Watering / Irrigation: Initial watering should be by surface sprinklers to ensure that the plants are kept moist until established. Adequate provision for watering the installed planting must be in place on site before the product is installed. Irrigation systems if fitted should be operational. Surface sprinklers should be used to water in the fertiliser. All watering should be carried out in strict accordance with the Bauder watering requirements and guidance document.
8. Final Inspection: No landscaping work should be installed until Bauder have carried out a final inspection to the waterproofing and have passed this as suitable for guarantee. It is the responsibility of the roofing contractor to advise and organise this inspection with Bauder. We cannot guarantee any waterproofing that has been landscaped without this inspection having been carried out and passed as acceptable.
   Please note, there are/maybe further 'sign-off' inspections required to complete the roof(s) for this specification.
9. Sign-off Inspections:
   9.1. Bauder Extensive Green Roofs: Bauder Extensive or Biodiverse soft landscaped green roof installations require an inspection and it is the responsibility of the installing contractor to inform Bauder Ltd when the installation has been completed.
   9.2. Bauder Blue Roofs: Landscaped roofs designated as 'Blue Roofs' and featuring outlets fitted with Bauder Blue roof flow rate restrictors, must be inspected and signed off by Bauder. This is to ensure correct installation of integral 'Blue Roof' components. Safe access to carry out this inspection must be provided.
10. Damage risk form other trades: No landscaping should be installed while the roof area is subject to other site traffic. Bauder will carry out an inspection of the completed roof 4-6 weeks following installation and any site related damage by others will be reported to the client. Bauder accept no responsibility whatsoever for damage to the product or the installation caused by site work carried out by others after the landscaping has been installed.
11. First year maintenance: The contractor must price into his tender the cost of post installation maintenance for a minimum period of 1 year to ensure the handover of a flourishing soft landscaped roof.

720 Adverse weather

1. Unfinished work: Secure from damage and wind uplift.
2. Conditions: Do not install or work with frozen materials.

745 Slip layer installation

1. Installation: To be rolled out loose over the root resistant layer as specified (one layer for Extensive landscaping and two layers for Intensive landscaping).
   This product is only required for roofs with a fall between 0-3° (A slip layer is not necessary or advisable for slopes above 3°).
2. Joints: Minimize.
   2.1. Overlaps (minimum): All laps to be 150mm with care being taken to ensure that roll sides join between layers.
3. Upstands: Extend to top of growing medium. Sufficient foil must be allowed for to enable it to be taken up all upstand and edge details prior to installation of the protection layer.

750C Protection layer installation

1. Installation: Protection fleece rolled out and laid loose. Laps to be sealed by lightly heating overlap area with a propane gas torch / hot air welding gun to melt the polypropylene fibres and then press seal the two fleece sheets together.
2. Joints: Minimize.

2.1. Overlaps (minimum): Laps to be 150mm.

3. Upstands: Sufficient protection fleece must be allowed for so that it may be installed to all abutment upstands and edge details, in accordance with the manufacturer's instructions. Extend to full height of the upstand and secure in place by using a lead or fabricated metal counter-flashing.
4. Outlets: Should be trimmed well back from ALL outlets.
5. Openings in landscape restraint kerbs: Where these kerbs are present (roof slopes above 5º), the protection layer should be cut away from the openings/ gaps to avoid impeding drainage.

770E Drainage / water storage layer installation

1. Extent: Continuous over entire designated roof area
2. Fitting: Loose laid over the protection layer. Boards to overlap and interlock by one cup profile at sides and ends and each row be laid staggered. The 'X' stamped impression on the highpoint of the cup moulding indicates where boards overlap.
3. Upstands: Carefully cut to fit closely around penetrations and outlets.
4. Construction of planter walls: The drainage/water storage board provides a suitable base surface for building concrete or brick kerbs/walls. The specified infill haunching should be installed over the board to required depth of cover, poured directly into the cells of board. These should be constructed to provide an adequate support for the raised masonry planters.
   For the specification of the type of infill and all kerb/wall construction elements – please refer to the structural engineer's plans and the specification. An internal surface of the planter wall may be primed using bituminous primer and then lined with single layer of torch applied Bauder root resistant capping sheet. The bright green slate finish may be considered undesirable, but the slate is necessary for long-term UV protection of the bitumen. To disguise and blacken the slate colour, paint exposed areas above anticipated soil level with a light coat of bituminous primer.

780A Filter membrane installation

1. Joints: Minimize.
   1.1. Overlaps (minimum): 150mm
2. Fitting: Loose laid over drainage layer in accordance with manufacturer's recommendation.
3. Upstands:
   3.1. Soft landscaping: Loose laid over drainage layer in accordance with manufacturer's recommendation
   3.2. Hard landscaping: Extend to top of perimeter abutments and trim flush just below finished surface level.

820B Edge-retaining profile installation

1. Cutting: Neat, accurate and without spalling.
   1.1. Junctions: Use the supplied connection pieces to reinforce and support the abutment of trim sections.
   1.2. Corners: The trim is cut to the length required. The supplied aluminium connection pieces have a perforated vertical line in the centre of the component to enable folding the unit through 90° to form the corner reinforcement.
2. Position: True to line and level. Smooth continuous lines.
3. Fixing: The AL150 Sedum blanket edge trim is to be secured in place using additional strips/sections of capping sheet/membrane/waterproofing system the same as the main field area of the roof.

3.1. Bitumen Membrane Green Systems : Bauder capping sheet cut into strips 500mm x 200mm, these bituminous flashings should be torched through the holes in the trim to the waterproofing surface and set at intervals of 400mm between each flashing piece, bonding onto the main capping sheet by a minimum 100mm.

4. Location: To contain soft landscaping at abutments and open perimeters, used in conjunction with the vegetation barrier.
5. Precautionary ntoe: When cutting metal, please ensure that appropriate tools and personal protection equipment are used.

825 Intallation of irrigation pipework

1. Pipe work should be installed and connected in accordance with the irrigation supplier's installation guidelines and set as per the plan provided.
2. Bauder Vegetation Blankets - Pipework should be secured at intervals to the vegetation blanket using wire or cable ties, as required. Over time the planting will cover the pipework, visually hiding it.
3. Bauder Plug Plants / Bauder UK Native Plug Plants / Flora Seed Mixes / Biodiversity - Pipework should be secured at intervals to the substrate as required using plastic pegs (available from irrigation supplier). Please note pegs should be installed in a manner so as not to cause damage to the waterproofing.

830 Inspection chamber installation

1. Location: Install centrally over rainwater outlets.
   1.1. Orientation: Align parallel with adjacent features.
2. Surround: Using 20/40mm grade washed pebbles; the inspection chamber must be surrounded by a 500mm vegetation barrier surround to prevent unwanted growth obstructing the drainage system.
3. Positioning: Never place directly on the waterproofing membrane – see options below-
   3.1. Intensive / extensive soft landscaping: Placed directly on to the drainage / water storage layer.
   Inverted roof with pebble ballast: Placed directly on the vapour permeable membrane or filter layer.
   3.2. Decorative aggregate finishes: Placed directly on the protection layer or vapour permeable membrane / filter layer
   3.3. Important Note: Ensure that a suitably sized hole has been cut out of the underlying drainage board / protection layer to allow water to flow freely into the outlet.
4. Chamber Height: The contractor should also allow for the installation of additional Bauder height adapter units as required, in order to bring the inspection chamber up to at least the height of the surrounding landscaping. These are available in either 50mm or 100mm units.
5. Box gutters and gullies: Where a box gutter is to be constructed, provision should be made to accommodate the 250mm diameter of the inspection chamber. The front support leg of the chamber will need to be removed (see installation guide) for the unit to fit inside a box gutter /gully. We recommend that all box gutters are constructed to a minimum finished width of 500mm to ensure that the support feet of the inspection chamber sufficiently clears the angle fillets within the gutter sole and leaves space to dress the pebble vegetation barrier around the main body of the chamber.
6. Precautionary note: When cutting metal, please ensure that appropriate tools and personal protection equipment are used.

840 Vegetation barrier / drainage barrier

1. A vegetation barrier must be provided to all perimeters, abutments penetrations including protrusions i.e. man-safe posts etc. We recommend 20/40mm rounded river washed pebbles. Stones/ aggregates with sharp edges must not be used i.e. flint.
   In accordance with current GRO guidelines, the specified barrier widths are as follows: -
   1.1. Minimum 300mm, but increasing to 500mm at vertical walls with opening windows or doors or to abutments with opening rooflights.
   1.2. Every 40m, there is a 30mm high barrier constructed of non-flammable materials or a one metre wide strip of solid paving, gravel or pebbles.
   1.3. At all open drainage perimeters, drainage trim must be used to contain the vegetation barrier.
   1.4. For extensive green/blue roofs where Bauder XF301 Sedum Blanket is specified, the vegetation barrier must cover the edges of the blanket by a minimum of 100mm in order to protect the exposed edge of the blanket against wind uplift and substrate erosion. Please refer to Bauder standard green roof detailing for other extensive green roof systems.
2. Vegetation barriers removal or reduction of the recommended width: Pebble vegetation barriers function as a fire break between potentially flammable dry vegetation and abutting construction materials that are also potentially flammable, to prevent fire spreading. These can be seen as an aesthetic issue for smaller green/blue roof areas and for this reason some clients/designers choose to reduce this width or otherwise remove the barrier altogether.
   The current barrier guidelines are set by the GRO codes of practice that Bauder follows and promotes. These are guidelines and not currently a legal requirement under British Standards or Building Regulations. However, not following these guidelines may affect an insurance claim in the unlikely event of a fire. Consequently, Bauder Ltd cannot accept liability for issues arising from non-compliance with the current GRO guidelines.

Completion

910 Inspection

1. Timing: Before handover.
   1.1. Give notice (minimum): Three days.

915D Establishing watering requirements

1. The substrate will have been watered prior to application of the seed mix. Please note that the seed mix should only then be lightly watered in during the summer or where activation of the adhesive element is required in exposed locations. Please avoid over-watering to prevent seed washout.
2. Once the seeds have germinated, it is essential that the growing medium is kept moist for a further 10 week period until planting is established. It is the responsibility of the roofing contractor to liaise with the main contractor/ building owner to provide water and ensure that the necessary watering programme (as indicated above) is instigated following installation.
3. An adequate mains water supply of sufficient pressure must be available and operational prior to the plants being delivered and installed. Initial watering must be by surface mounted sprinklers.
4. Refer to the Bauder Watering Guide document for further information on watering.
5. Bauder Ltd accepts no responsibility whatsoever for the condition of installed planting that is not properly watered or irrigated following landscaping works.

916 Post installation maintenance

1. The installing contractor should price into the tender, the cost of carrying out post-installation maintenance for a contract period to be agreed with the client's representative. Following completion of the landscaping installation and handover, the responsibility for future on-going maintenance of the green/blue roof planting becomes the responsibility of the building owner or the Main Contractor, where this element forms part of the contract.
2. Maintenance services: Bauder Ltd offers a professional maintenance service using experienced green/blue roof technicians and would be pleased to provide an estimate for carrying out on-going maintenance. Please contact our green roof maintenance team on Tel: 01473 257671. Alternatively, the work can be contracted to experienced landscape contractors of your choice.
3. Period of maintenance contract: TBC with client's representative.
4. Scope of maintenance procedure: as per manufacturer's recommendations.

920 Completion

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.
3. Outlets: Clean and clear of obstructions.
4. Completed green roof: Protect from adjacent or high level working.

930 Documentation

1. Timing: Submit at handover.
2. Contents
   - 2.1. Manufacturers' guarantees and warranties.
   - 2.2. Procedures for maintenance of the green roof.
   - 2.3. Record drawings showing the location of planting and associated features.
3. Number of copies: As required by client.

Ω End of Section

Q40
Fencing

Fencing systems

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

410 Purpose made fencing and gate

1. Description: Aluminium perforated feature fence on proprietary support frame with integrated opening gate. Contractor to submit proposals for Employer Representative review including overall plans, sections and elevations and details at 1:5.

   Refer to drawing 21-0310 for design intent.
2. Panels: Bespoke perforated pattern to areas as shown on drawings. Standard perforation pattern to all other areas. Design / pattern to be developed at next workstage with client representative.
3. Finish: Anodized aluminium (dark grey - colour TBC through sampling)
4. Profile: Folded cassette panels. To be developed at next stage for robustness / durability.
5. Support: Allow for all secondary supports and fixings to subcontractor design. Minimise visible fixings and match panel finish where required.
6. Performance: To suit security and access consultant requirements
7. Opening: Push button automated with mag lock connected to the fire system. On hold open during the day. To be coordinated with MEP requirements.
8. Ironmongery: Stainless steel.

Gates, posts and stiles - Not Used

Accessories - Not Used

Execution

710 Installation generally

1. Set out and erect
   1.1. Alignment: Straight lines or smoothly flowing curves.
   1.2. Tops of posts: Following profile of the ground.

1.3. Setting posts: Rigid, plumb and to specified depth, or greater where necessary to ensure adequate support.

1.4. Fixings: All components securely fixed.

Completion

910 Cleaning

1. General: Leave the works in a clean, tidy condition.
2. Surfaces: Clean immediately before handover.

920 Fixings

1. All components: Tighten.
   1.1. Timing: Before handover.

930 Gates

1. Hinges, latches and closers: Adjust to provide smooth operation. Lubricate where necessary.
   1.1. Timing: Before handover.

Ω End of Section

Q50
Site/ street furniture/ equipment

Gates, barriers and parking controls

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

Site and street furniture

212 Bike Parking Shed

1. Description: Bike parking shed with bespoke aluminium perforated paneling.
2. Manufacturer: Urbanspec or acceptable equivalent.
   2.1. Product reference: H-series Bike Hub (Bespoke) or acceptable equivalent.
3. Frame: Galvanised steel
4. Paneling: Anodized aluminium perforated panels to match Q40/140.
5. Bicycle stands: As landscape consultant specification.
6. Locking: Locking mechanism to gate required - type TBC.
7. Security: Certified to Sold Secure SS104 - Gold Specification for Mechanical Security Systems for Pedal Cycles.
8. Roofing: Extensive green roof system as Q37/130. Refer to landscape designer information for green roof details.
9. Other requirements: Motion activated lighting TBC as MEP specification.
   Allow for actuators to gate to meet accessibility requirements.
   Fixing as per manufacturer's recommendations.

Installation - Not Used

Ω End of Section

X12
Vertical lifting platform and homelift systems

General

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

System performance - Not Used

Products

350 Passenger lift finishes

1. Description: Lift specification to MEP information. Refer to GA plans and SE drawings for shaft sizes. Loadings as per SE specification.
2. Internal architectural finishes
   - 2.1. General: Satin Stainless Steel Lift Car Walls.
   - 2.2. Doors: 900 mm Two Panel Side Opening Car and Landing Doors in Satin Stainless Steel.
   - 2.3. Floor: Grey PVC Flooring to manufacturer's standard.
   - 2.4. Handrail: Stainless Steel Handrail on one side wall of lift car.
   - 2.5. Mirror: Half Height Mirror on rear wall of lift car
   - 2.6. Operating panel: Satin Stainless Steel Car Operating Panel.
3. Additional requirements: Allow for removeable elevator wall protective drapes.

351 External rising platform lift

1. Description: Step-free lift to north Link, integrated in external landscape. Refer to MEP information for further information.
2. Manufacturer: Premier or acceptable equivalent
   - 2.1. Product reference: VPL custom for external use or acceptable equivalent
3. Architectural finishes
   - 3.1. General: Fully bespoke option to match railing proposals in landscape.
   - 3.2. Platform: Finish of platform floor to match landscape material
4. Platform size: 1100x1400 mm
5. Rated load: 400 kg

6. Max speed: 0.15 m/s
7. Other requirements: - To meet Part M regulations and BS 8300 for accessible design.
   - For seated users only - not for standing passengers.
   - Solid stainless steel skirt below lift platform.
   - Safety edges.
   - Automated upper landing gate finish to match railings.
   - To sit flush with lower landing when not in use.
   - Automatic rising stainless steel wheel stop/toe guard.
   - Dimensions and pit depth to be confirmed following final product selection

Execution - Not Used

Completion - Not Used

Ω End of Section

Z10
Purpose made joinery

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Fabrication

1. Standard: To BS 1186-2.
2. Sections: Accurate in profile and length, and free from twist and bowing. Formed out of solid unless shown otherwise.
   2.1. Machined surfaces: Smooth and free from tearing, wooliness, chip bruising and other machining defects.
3. Joints: Tight and close fitting.
4. Assembled components: Rigid. Free from distortion.
5. Screws: Provide pilot holes.
   5.1. Screws of 8 gauge (4 mm diameter) or more and screws into hardwood: Provide clearance holes.
   5.2. Countersink screws: Heads sunk at least 2 mm below surfaces visible in completed work.
6. Adhesives: Compatible with wood preservatives applied and end uses of timber.

120 Cross section dimensions of timber

1. General: Dimensions on drawings are finished sizes.
2. Maximum permitted deviations from finished sizes
   2.1. Softwood sections: To BS EN 1313-1:-
      2.1.1. Clause 6 for sawn sections.
   2.2. Hardwood sections: To BS EN 1313-2:-
      2.2.1. Clause 6 for sawn sections.
      2.2.2. Clause NA.3 for further processed sections.

130 Preservative treated wood

1. Cutting and machining: Completed as far as possible before treatment.

2. Extensively processed timber: Retreat timber sawn lengthways, thicknessed, planed, ploughed, etc.
3. Surfaces exposed by minor cutting and/ or drilling: Treat as recommended by main treatment solution manufacturer.

140 Moisture content

1. Wood and wood based products: Maintained within range specified for the component during manufacture and storage.

210 Laminated plastics veneered boards/ panels

1. Fabrication: To British Laminated Plastics Fabricators Association Ltd (BLF) fabricating standards.
2. Balancing veneer: From decorative veneer manufacturer and of similar composition. Applied to reverse side of core material.
3. Finished components: Free from defects, including bow, twist, scratches, chipping, cracks, pimpling, indentations, glue marks, staining and variations in colour and pattern.
4. Joints visible in completed work: Tight butted, true and flush.

220 Wood veneered boards/ panels

1. Core material and veneers: Conditioned before bonding.
2. Setting out: Veneer features and grain pattern aligned regularly and symmetrically unless instructed otherwise.
3. Balancing veneer: Applied to reverse side of core material.
   3.1. Moisture and temperature movement characteristics: As facing veneer.
4. Veneer edges: Tight butted and flush, with no gaps.
5. Tolerance of veneer thickness (maximum): ± 0.5 mm.
6. Finished components: Free from defects, including bow, twist, scratches, chipping, splits, blebs, indentations, glue marks and staining.
7. Surface finish: Fine, smooth, free from sanding marks.

250 Finishing

1. Surfaces: Smooth, even and suitable to receive finishes.
   1.1. Arrises: Eased unless shown otherwise on drawings.
2. End grain in external components: Sealed with primer or sealer as section M60 and allowed to dry before assembly.

Ω End of Section

Z11
Purpose made metalwork

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

310 Materials generally

1. Grades of metals, section dimensions and properties: To appropriate British Standards. When not specified, select grades and sections appropriate for the purpose.
2. Prefinished metal: May be used if methods of fabrication do not damage or alter appearance of finish, and finish is adequately protected.
3. Fasteners: To appropriate British Standards and, unless specified otherwise, of same metal as component being fastened, with matching coating or finish.

320 Steel long and flat products

1. Hot rolled structural steels (excluding structural hollow sections and tubes): To BS EN 10025-1.
2. Fine grain steels, including special steels: To BS EN 10025-3 and -4.
3. Steels with improved atmospheric corrosion resistance: To BS EN 10025-5.

330 Steel plate, sheet and strip

1. Plates and wide flats, high yield strength steel: To BS EN 10025-6.

340 Hot rolled steel plate, sheet and strip

1. Flat products, high yield strength for cold forming: To BS EN 10149-1, -2 and -3.
2. Carbon steel sheet and strip for cold forming: To BS EN 10111.
3. Narrow strip, formable steel and steel for general engineering purposes: To BS 1449-1.8 and BS 1449-1.14.

350 Cold rolled steel plate, sheet and strip

1. Steel sections: To BS EN 10162.

2. Flat products, high yield strength micro-alloyed steels for cold forming: To BS EN 10268.
3. Carbon steel flat products for cold forming: To BS EN 10130 and BS EN 10131.
4. Uncoated carbon steel narrow strip for cold forming: To BS EN 10139 and BS EN 10140.
5. Narrow strip steel for general engineering purposes: To BS EN 10132-1, -2, and -3.
6. Carbon steel flat products for vitreous enamelling: To BS EN 10209.

360 Coated steel flat products

1. Hot dip zinc coated carbon steel sheet and strip for cold forming: To BS EN 10346 and BS EN 10143.
2. Hot dip zinc coated structural steel sheet and strip: To BS EN 10143 and BS EN 10346.
3. Hot dip zinc-aluminium (za) coated sheet and strip: To BS EN 10346.
4. Hot dip aluminium-zinc (az) coated sheet and strip: To BS EN 10346.
5. Organic coated flat products: To BS EN 10169.

370 Steel structural hollow sections (SHS)

1. Non alloy and fine grain steels, hot finished: To BS EN 10210-1 and -2.
2. Non-alloy and fine grain steels, cold formed welded: To BS EN 10219-2.
3. Weather resistant steels, hot finished: To BS 7668.

380 Other steel sections

1. Equal flange tees: To BS EN 10055.
2. Equal and unequal angles: To BS EN 10056-1 and -2.
3. Wire, carbon steel for general engineering purposes: To BS 1052.
4. Wire and wire products, general: To BS EN 10218-2.
5. Tubes
    5.1. Seamless circular: To BS EN 10297-1.
    5.2. Seamless cold drawn: To BS EN 10305-1.
    5.3. Welded and cold sized square and rectangular: To BS EN 10305-5.
    5.4. Welded circular: To BS EN 10296-1.
    5.5. Welded cold drawn: To BS EN 10305-2.
    5.6. Welded cold sized: To BS EN 10305-3.

400 Stainless steel products

1. Chemical composition and physical properties: To BS EN 10088-1.
2. Sheet, strip and plate: To BS EN 10088-2.
3. Semi-finished products bars, rods and sections: To BS EN 10088-3.
4. Wire: To BS EN 1088-3.
5. Tubes
    5.1. Welded circular: To BS EN 10296-2.
    5.2. Seamless circular: To BS EN 10297-2.

410 Aluminium alloy products

1. Designations

1.1. Designation system, chemical composition and forms: To BS EN 573-1, -2, -3 and -5.
1.2. Temper designations: To BS EN 515.
2. Sheet, strip and plate: To BS EN 485-1 to -4.
3. Cold drawn rods, bars and tubes: To BS EN 754-1 and -2.
4. Extruded rods, bars, tubes and profiles: To BS EN 755-1 and -2.
5. Drawn wire: To BS EN 1301-1, -2 and -3.
6. Rivet, bolt and screw stock: To BS 1473.
7. Structural sections: To BS 1161.

420 Copper alloy products

1. Sheet, strip, plate and circles for general purposes: To BS EN 1652.
2. Sheet and strip for building purposes: To BS EN 1172.
3. Rods: To BS EN 12163.
4. Profiles and rectangular bars: To BS EN 12167.
5. Wire: To BS EN 12166.
6. Tubes: To BS EN 12449.

Fabrication

515 Fabrication generally

1. Contact between dissimilar metals in components: Avoid.
2. Finished components: Rigid and free from distortion, cracks, burrs and sharp arrises.
2.1. Moving parts: Free moving without binding.
3. Corner junctions of identical sections: Mitre.

520 Cold formed work

1. Profiles: Accurate, with straight arrises.

525 Adhesive bonding

1. Preparation of surfaces of metals to receive adhesives
1.1. Degrease.
1.2. Abrade mechanically or chemically etch.
1.3. Prime: To suit adhesive.
2. Adhesive bond: Form under pressure.

527 Welding

1. Welding procedures
1.1. Method and standard: Metal arc welding to BS EN 1011-1 and -2 (for steel), TIG welding to BS EN 1011-3 (for stainless steel) and TIG or MIG welding to BS EN 1011-4 (for aluminium alloys).
1.2. Welding Procedure Specification (WPS): Submit 1 copy before commencement of welding.
2. Preparation
2.1. Joint preparation: Clean thoroughly.

2.2. Surfaces of materials that will be self-finished and visible in the completed work: Protect from weld splatter.

3. Jointing
   3.1. Joints: Fully bond parent and filler metal throughout with no inclusions, holes, porosity or cracks.
   3.2. Dissimilar metals: Welding not permitted.
   3.3. Strength requirements: Welds to achieve design loads.
   3.4. Heat straightening: Obtain approval.
   3.5. Complex assemblies: Agree priority for welding members to minimize distortion caused by subsequent welds.
   3.6. Tack welds: Use only for temporary attachment.
   3.7. Jigs: Provide to support and restrain members during welding.
   3.8. Filler plates: Obtain approval.
   3.9. Lap joints: Minimum 5 x metal thickness or 25 mm, whichever is greater.
   3.10. Weld terminations: Clean and sound.

530 Stainless steel fabrication

1. Guillotining or punching: Do not use for metal thicknesses greater that 10 mm.
2. Thermal cutting
   2.1. Carbonation in the heat affected zone: Remove, after cutting.
3. Bending
   3.1. Plates or bars: Cold bending radius not less than material thickness.
   3.2. Tubes: Cold bending radius not less than 2 x tube diameter.
4. Welding: In addition to general welding requirements:
   4.1. Protect adjacent surfaces from weld spatter.
   4.2. Pickle all welds before post fabrication treatments.
5. Protection: Provide protection to fabricated components during transit and on site.

555 Brazing

1. Standard: To BS EN 14324.
2. Testing
   2.1. Destructive testing: To BS EN 12797.
   2.2. Nondestructive testing: To BS EN 12799.

610 Testing

1. Testing standard: As recommended by TWI.
2. Welding records and test results: Submit 2 copies.

Finishing

710 Finishing welded and brazed joints visible in complete work

1. Standard: To BS EN ISO 8501-3.
   1.1. Preparation grade: P3
2. Butt joints: Smooth, and flush with adjacent surfaces.

3. Fillet joints: Neat.
4. Grinding: Grind smooth where indicated on drawings.

745 Preparation for application of coatings

1. General: Complete fabrication, and drill fixing holes before applying coatings.
2. Paint, grease, flux, rust, burrs and sharp arrises: Remove.

750 Liquid organic coating for aluminium alloy components

1. Standard: To BS 4842.

760 Zinc and cadmium plating of iron and steel surfaces

1. Zinc plating: To BS EN ISO 2081.
2. Cadmium plating: To BS EN ISO 2082.

770 Chromium plating

1. Standard: To BS EN ISO 1456.

780 Galvanizing

1. Standard: To BS EN ISO 1461.
2. Preparation
   - 2.1. Vent and drain holes: Provide in accordance with BS EN ISO 14713-1 and -2. Seal after sections have been drained and cooled.
   - 2.2. Components subjected to cold working stresses: Heat treat to relieve stresses before galvanizing.
   - 2.3. Welding slag: Remove.
   - 2.4. Component cleaning: To BS EN ISO 8501-3.
   - 2.5. Grade: St 2½

790 Vitreous enamelling

1. Standard: To BS EN ISO 28722.
2. Substrate metal: Steel to BS EN 10209.

Completion

910 Documentation

1. Submit
   - 1.1. Manufacturer's maintenance instructions.
   - 1.2. Guarantees, warranties, test certificates, record schedules and log books.

920 Completion

1. Protection: Remove.
2. Cleaning and maintenance: Carry out in accordance with procedures detailed in fabricators' guarantees.

Ω End of Section

Z12
Preservative/ flame-retardant treatment

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Treatment application

1. Timing: After cutting and machining timber, and before assembling components.
2. Processor: WPA Benchmark-accredited for the specified treated components.

120 Commodity specifications

1. Standard: In accordance with the Wood Protection Association (WPA) publication 'Code of practice: Industrial Wood Preservation'.

130 Preservative treatment solution strengths/ treatment cycles

1. General: Select to achieve specified service life and to suit treatability of specified wood species.

140 Copper-organic preservative treatment

1. Solution
   - 1.1. Manufacturer: Submit proposals
     - 1.1.1. Product reference: Submit proposals
   - 1.2. Colour: Submit proposals
   - 1.3. Application: High-pressure impregnation.
2. Moisture content of wood
   - 2.1. At time of treatment: Not more than 28%.
   - 2.2. After treatment: Timber to be surface dry before using.

150 Water-based organic preservative treatment

1. Solution
   - 1.1. Manufacturer: Submit proposals
     - 1.1.1. Product reference: Submit proposals
   - 1.2. Application: High-pressure impregnation.

2. Moisture content of wood
    2.1. At time of treatment: Not more than 28%.
    2.2. After treatment: Timber to be surface dry before use.

160 Organic solvent preservative treatment

1. Solution
    1.1. Manufacturer: Submit proposals
        1.1.1. Product reference: Submit proposals
    1.2. Application: Double vacuum and low-pressure impregnation, or immersion.
2. Moisture content of wood
    2.1. At time of treatment: As specified for the timber/ component at time of fixing.
    2.2. After treatment: Timber to be surface dry before use.

165 Water-based microemulsion preservative treatment

1. Solution
    1.1. Manufacturer: Submit proposals
        1.1.1. Product reference: Submit proposals
    1.2. Application: Double vacuum and low-pressure impregnation.
2. Moisture content of wood
    2.1. At time of treatment: As specified for the timber/ component at time of fixing.
    2.2. After treatment: Timber to be surface dry before use.

167 Boron compound preservative treatment

1. Solution
    1.1. Manufacturer: Submit proposals
        1.1.1. Product reference: Submit proposals
    1.2. Application: High-pressure impregnation.
2. Moisture content of wood
    2.1. At time of treatment: Not more than 28%.
    2.2. After treatment: Timber to be surface dry before using.

180 Recycled treated timber

1. Usage: Usage of recycled treated timber must be in accordance with permitted use (see WPA publications relating to creosote) and restricted to end uses compatible with those for which the timber was originally treated.

210 Flame-retardant treatment

1. Standard: In accordance with the Wood Protection Association (WPA) publication 'Industrial flame retardant treatment of wood and wood-based panel products'.
2. Solution type: As recommended by WPA subject to location and environment.
    2.1. Manufacturer: Submit proposals
        2.1.1. Product reference: Submit proposals
    2.2. Application: Vacuum and pressure impregnation.

3. Moisture content of wood
   3.1. At time of treatment: As specified in product classification report.
   3.2. After treatment (INT1 only): Timber to be re-dried slowly at temperatures not exceeding 60°C to minimize distortion and degradation.

610 Making good to preservative treatment on site

1. Preservative solution: Compatible with off-site treatment.
2. Application: In accordance with preservative manufacturer's recommendations.

620 Making good to flame-retardant treatment on site

1. Flame-retardant: Compatible with off-site treatment.
2. Application: In accordance with flame-retardant manufacturer's recommendations.

Ω End of Section

Z20
Fixings and adhesives

Products

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

310 Fasteners generally

1. Materials: To have:
   1.1. Bimetallic corrosion resistance appropriate to items being fixed.
   1.2. Atmospheric corrosion resistance appropriate to fixing location.
2. Appearance: Submit samples on request.

320 Packings

1. Materials: Noncompressible, corrosion proof.
2. Area of packings: Sufficient to transfer loads.

330 Nailed timber fasteners

1. Nails
   1.1. Steel: To BS 1202-1 or BS EN 10230-1.
   1.2. Copper: To BS EN 1202-2.
   1.3. Aluminium: To BS 1202-3.

340 Masonry fixings

1. Light duty: Plugs and screws.
2. Heavy duty: Expansion anchors or chemical anchors.

350 Plugs

1. Type: Proprietary types to suit substrate, loads to be supported and conditions expected in use.

360 Anchors

1. Types
   1.1. Expansion: For use in substrate strong enough to resist forces generated by expansion of anchor.
   1.2. Adhesive or chemical
      1.2.1. For use in substrate where expansion of anchor would fracture substrate.
      1.2.2. For use in irregular substrate where expansion anchors cannot transfer load on anchor.
   1.3. Cavity: For use where the anchor is retained by toggles of the plug locking onto the inside face of the cavity.

370 Wood screws

1. Type
   1.1. Wood screws (traditional pattern).
      1.1.1. Standard: To BS 1210.
   1.2. Wood screws.
      1.2.1. Pattern: Parallel, fully threaded shank or twin thread types.
2. Washers and screw cups: Where required are to be of same material as screw.

380 Miscellaneous screws

1. Type: To suit the fixing requirement of the components and substrate.
   1.1. Pattern: Self-tapping, metallic drive screws, or power driven screws.
2. Washers and screw cups: Where required to be of same material as screw.

390 Adhesives

1. Standards
   1.1. Hot-setting phenolic and aminoplastic: To BS 1203.
   1.2. Thermosetting wood adhesives: To BS EN 12765.
   1.3. Thermoplastic adhesives: To BS EN 204.

410 Powder actuated fixing systems

1. Types of fastener, accessories and consumables: As recommended by tool manufacturer.

Execution

610 Fixing generally

1. Integrity of supported components: Select types, sizes, quantities and spacings of fixings, fasteners and packings to retain supported components without distortion or loss of support.
2. Components, substrates, fixings and fasteners of dissimilar metals: Isolate with washers/ sleeves to avoid bimetallic corrosion.
3. Appearance: Fixings to be in straight lines at regular centres.

620 Fixing through finishes

1. Penetration of fasteners and plugs into substrate: To achieve a secure fixing.

630 Fixing packings

1. Function: To take up tolerances and prevent distortion of materials and components.
2. Limits: Do not use packings beyond thicknesses recommended by fixings and fasteners manufacturer.
3. Locations: Not within zones to be filled with sealant.

640 Fixing cramps

1. Cramp positions: Maximum 150 mm from each end of frame sections and at 600 mm maximum centres.
2. Fasteners: Fix cramps to frames with screws of same material as cramps.
3. Fixings in masonry work: Fully bed in mortar.

650 Nailed timber fixing

1. Penetration: Drive fully in without splitting or crushing timber.
2. Surfaces visible in completed work: Punch nail heads below wrot surfaces.
3. Nailed timber joints: Two nails per joint (minimum), opposed skew driven.

660 Screw fixing

1. Finished level of countersunk screw heads
    1.1. Exposed: Flush with timber surface.
    1.2. Concealed (holes filled or stopped): Sink minimum 2 mm below surface.

670 Pelleted countersunk screw fixing

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Pellets: Cut from matching timber, match grain and glue in to full depth of hole.
3. Finished level of pellets: Flush with surface.

680 Plugged countersunk screw fixing

1. Finished level of countersunk screw heads: Minimum 6 mm below timber surface.
2. Plugs: Glue in to full depth of hole.
3. Finished level of plugs: Projecting above surface.

690 Using powder actuated fixing systems

1. Powder actuated fixing tools: To BS 4078-2 and Kitemark certified.
2. Operatives: Trained and certified as competent by tool manufacturer.

700 Applying adhesives

1. Surfaces: Clean. Adjust regularity and texture to suit bonding and gap filling characteristics of adhesive.
2. Support and clamping during setting: Provide as necessary. Do not mark surfaces of or distort components being fixed.
3. Finished adhesive joints: Fully bonded. Free of surplus adhesive.

Ω End of Section

Z21
Mortars

Cement gauged mortars

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Cement gauged mortar mixes

1. Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

120 Sand for site made cement gauged masonry mortars

1. Standard: To BS EN 13139.
2. Grading: 0/2 (FP or MP).
   2.1. Fines content where the proportion of sand in a mortar mix is specified as a range (e.g. 1:1: 5-6):
      2.1.1. Lower proportion of sand: Use category 3 fines.
      2.1.2. Higher proportion of sand: Use category 2 fines.
3. Sand for facework mortar: Maintain consistent colour and texture. Obtain from one source.

131 Ready-Mixed lime:sand for cement gauged masonry mortars

1. Standard: To BS EN 998-2.
2. Lime: Nonhydraulic to BS EN 459-1.
   2.1. Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.

135 Site made lime:sand for cement gauged masonry mortars

1. Permitted use: Where a special colour is not required and in lieu of factory made ready-mixed material.
2. Lime: Nonhydraulic to BS EN 459-1.

2.1. Type: CL 90S.

3. Mixing: Thoroughly mix lime with sand, in the dry state. Add water and mix again. Allow to stand, without drying out, for at least 16 hours before using.

160 Cements for mortars

1. Cement: To BS EN 197-1 and CE marked.
   1.1. Types: Portland cement, CEM I.
      1.1.1. Portland limestone cement, CEM II/A-L or CEM II/A-LL.
2. Portland slag cement, CEM II/B-S.
3. Portland fly ash cement, CEM II/B-V.
   3.1. Strength class: 32.5, 42.5 or 52.5.
4. White cement: To BS EN 197-1 and CE marked.
   4.1. Type: Portland cement, CEM I.
   4.2. Strength class: 52.5.
5. Sulfate resisting Portland cement
   5.1. Type: To BS EN 197-1 Sulfate resisting Portland cement, CEM I/SR and CE marked.
6. To BS EN 197-1 fly ash cement, CEM II/B-V and CE marked.
   6.1. Strength class: 32.5, 42.5 or 52.5.
7. Masonry cement: To BS EN 413-1 and CE marked.
   7.1. Class: MC 12.5.

180 Admixtures for site made cement gauged mortars

1. Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
2. Other admixtures: Submit proposals.
3. Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

190 Retarded ready to use cement gauged mortar

1. Standard: To BS EN 998-2.
2. Lime for cement:lime:sand mortars: Nonhydraulic to BS EN 459-1.
   2.1. Type: CL 90S.
3. Pigments for coloured mortars: To BS EN 12878.
4. Time and temperature limitations: Use within limits prescribed by mortar manufacturer.
   4.1. Retempering: Restore workability with water only within prescribed time limits.

200 Storage of cement gauged mortar materials

1. Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
2. Factory made ready-mixed lime:sand/ ready to use retarded mortars: Keep in covered containers to prevent drying out or wetting.
3. Bagged cement/ hydrated lime: Store off the ground in dry conditions.

210 Making cement gauged mortars

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
   1.1. Mix proportions: Based on dry sand. Allow for bulking of damp sand.
2. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
   2.1. Mortars containing air entraining admixtures: Mix mechanically. Do not overmix.
3. Working time (maximum): Two hours at normal temperatures.
4. Contamination: Prevent intermixing with other materials.

Lime:sand mortars

310 Lime:sand mortar mixes

1. Specification: Proportions and additional requirements for mortar materials are specified elsewhere.

320 Sand for lime:sand masonry mortars

1. Type: Sharp, well graded.
   1.1. Quality, sampling and testing: To BS EN 13139.
   1.2. Grading/ Source: As specified elsewhere in relevant mortar mix items.

330 Ready prepared lime putty

1. Type: Slaked directly from CL 90 quicklime to BS 890, using an excess of water.
   1.1. Maturation: In pits/ containers that allow excess water to drain away.
   1.2. Density of matured lime putty: 1.3 - 1.4 kg/litre.
2. Maturation period before use (minimum): Seek instructions.

345 Admixtures for hydraulic lime:sand mortars

1. Air entraining (plasticizing) admixtures: To BS EN 934-3 and compatible with other mortar constituents.
2. Prohibited admixtures: Calcium chloride, ethylene glycol and any admixture containing calcium chloride.

350 Storage of lime:sand mortar materials

1. Sands and aggregates: Keep different types/ grades in separate stockpiles on hard, clean, free-draining bases.
2. Ready prepared nonhydraulic lime putty: Prevent drying out and protect from frost.
3. Nonhydraulic lime:sand mortar: Store on clean bases or in clean containers that allow free drainage. Prevent drying out or wetting and protect from frost.
4. Bagged hydrated hydraulic lime: Store off the ground in dry conditions.

360 Making lime:sand mortars generally

1. Batching: By volume. Use clean and accurate gauge boxes or buckets.
2. Mixing: Mix materials thoroughly to uniform consistency, free from lumps.
3. Contamination: Prevent intermixing with other materials, including cement.

370 Site prepared nonhydraulic lime:sand mortars

1. Mixing: Mix materials thoroughly by compressing, beating and chopping. Do not add water.
   1.1. Equipment: Roller pan mixer or submit proposals.
2. Maturation period before use (maximum): Seek instructions.

390 Knocking up nonhydraulic lime:sand mortars

1. Knocking up before and during use: Achieve and maintain a workable consistency by compressing, beating and chopping. Do not add water.
   1.1. Equipment: Roller pan mixer or submit proposals.

400 Making hydraulic lime:sand mortars

1. Mixing hydrated hydraulic lime:sand: Follow the lime manufacturer's recommendations for each stage of the mix.
   1.1. Water quantity: Only sufficient to produce a workable mix.
2. Working time: Within limits recommended by the hydraulic lime manufacturer.

Ω End of Section

Z22
Sealants

Products

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.
5. Sealants shall be low-modulus silicone, colour tbc with architect, complying with BS EN ISO 11600.
6. Observe the instructions of the sealant manufacturer regarding surface preparation, priming, compatibility of materials, and application.
7. Avoid three-sided adhesion, using bond breakers applied to the sealant manufacturer's recommendations.

310 Joints

1. Manufacturer: ISO 9001-certified and ISO 14001-certified; submit current certification at tender.
2. Primer, backing strip, bond breaker: Types recommended by sealant manufacturer.
3. Fire performance
   - 3.1. Fire resistance: As required to meet fire requirements subject to location.
   - 3.2. Reaction to fire: As required to meet fire requirements subject to location.

Execution

610 Suitability of joints

1. Presealing checks
   - 1.1. Joint dimensions: Within limits specified for the sealant.
   - 1.2. Substrate quality: Surfaces regular, undamaged and stable.
2. Joints not fit to receive sealant: Submit proposals for rectification.

620 Preparing joints

1. Surfaces to which sealant must adhere

1.1. Remove temporary coatings, tapes, loosely adhering material, dust, oil, grease, surface water and contaminants that may affect bond.

1.2. Clean using materials and methods recommended by sealant manufacturer.

2. Vulnerable surfaces adjacent to joints: Mask to prevent staining or smearing with primer or sealant.
3. Backing strip and/ or bond breaker installation: Insert into joint to correct depth, without stretching or twisting, leaving no gaps.
4. Protection: Keep joints clean and protect from damage until sealant is applied.

630 Applying sealants

1. Substrate: Dry (unless recommended otherwise) and unaffected by frost, ice or snow.
2. Environmental conditions: Do not dry or raise temperature of joints by heating.
3. Sealant application: Fill joints completely and neatly, ensuring firm adhesion to substrates.
4. Sealant profiles

4.1. Butt and lap joints: Slightly concave.

4.2. Fillet joints: Flat or slightly convex.

5. Protection: Protect finished joints from contamination or damage until sealant has cured.

Ω End of Section

Z31
Powder coatings

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

120 Powder coating materials

1. Manufacturer: Obtain from one only of the following: Interpon Powder Coatings or acceptable equivalent.
2. Selected manufacturer: Submit details before commencement of powder coating including:
   - 2.1. Name and contact details.
   - 2.2. Details of accreditation schemes.
   - 2.3. Technical data of product including current Agrément certificates.
3. Select powder coating product to maximise design life.
4. PPC coatings to be EPD certified.

121 Powder coating thickness

1. Thickness shall be to BS EN 12006-1 to a minimum thickness of not less than 60 microns to suit weather conditions and environmental pollution levels.

210 Working procedures

1. Comply with the follow following standards.
   - 1.1. Aluminium components: To BS 6496 or BS EN 12206-1.
   - 1.2. Steel components: To BS EN 13438.
   - 1.3. Safety standards: To British Coatings Federation 'Code of safe practice: Powder coating. Application of coating powders by electrostatic spraying'.
   - 1.4. Health and safety guidance: Health and Safety Executive 'Reducing risk associated with using coating powders - employers' web page.

220 Powder coating applicators

1. Applicator requirements
   1.1. Approved by powder coating manufacturer.
   1.2. Currently certified to BS EN ISO 9001.
   1.3. Comply with quality procedures, guarantee conditions, standards and tests required by powder coating manufacturer.
   1.4. Selected applicator: Submit details before commencement of powder coating including:
      1.4.1. Name and contact details.
      1.4.2. Details of accreditation schemes.

225 Guarantees

1. Powder coating manufacturer and applicator guarantees
   1.1. Submit sample copies before commencement of powder coating.
   1.2. Submit signed project specific copies on completion of work.

230 Control samples

1. Sequence: Prior to ordering materials for the works, obtain approval of appearance for:
   1.1. Powder coated samples: Of various grades and forms of background metal to be used, showing any colour, texture and gloss variation.
   1.2. Fabrication samples: Showing joint assembly, how powder coating is affected and how any cut metal edges are finished and protected.
   1.3. Where manual application is required, controlled samples should be coated and inspected for colour and gloss stability.
2. Samples to include the following information
   2.1. Product reference.
   2.2. Colour.
   2.3. Reference number.
   2.4. Name.
   2.5. Gloss level.

235 Independent inspection at plant

1. Requirement: Contractors/ suppliers of the following designated components must commission an approved Independent Inspection Authority to carry out acceptance inspections to confirm that powder coating application complies with this specification.
   1.1. Designated components: All.
2. Acceptance inspections: Carry out for each variation of colour and finish of each component work package at applicator's plant prior to any fabrication of units, in accordance with the following:
   2.1. Where three of more production runs are required for application of coatings, not less than three acceptance inspections must be carried out in accordance with BS 6001-1, general inspection level 2, with an acceptance quality limit of 1%.
   2.2. Where less than three production runs are required for application of coatings, one acceptance inspection must be carried out in accordance with BS 6001-2, with a limiting quality of 5% where the probability of acceptance is 10%.
3. Components failing inspection: Reprocess or replace and reinspect.

4. Inspection reports: Independent Inspection Authority must submit copies.

240 Qualicoat quality assurance system

1. Requirement: Powder and coating application to the following designated components is to be tested and approved in accordance with the Qualicoat system.
   1.1. Designated components: All - Class 1.

250 Component design

1. Condition of components to be powder coated
   1.1. To comply with relevant recommendations of BS 4479-1, -3, and -4.
   1.2. Of suitable size to fit plant capacity.
   1.3. Of suitable thickness to withstand oven curing.

310 Pretreatment of aluminium components

1. Condition of components to be pretreated
   1.1. Free from corrosion and damage.
   1.2. All welding and jointing completed and finish off as specified.
   1.3. Free from impurities including soil, grease and oil.
   1.4. Suitable for and compatible with the pretreatment process.
2. Conversion coating requirements
   2.1. Chromate system: To BS 6496 or BS EN 12206-1.
   2.2. Chromate-free system: To BS EN 12206-1. Submit details before using.
3. Rinsing requirements: Use demineralized water. Drain and dry.

320 Pretreatment of steel components

1. Condition of components to be pretreated
   1.1. Free from corrosion and damage.
   1.2. All welding and jointing completed and finish off as specified.
   1.3. Free from impurities including soil, grease and oil.
   1.4. Suitable for and compatible with the pretreatment process.
2. Conversion coating requirements: To BS EN 13438.
3. Rinsing requirements: Use demineralized water. Drain and dry.

330 Pretreatment for protection in aggressive environments

1. Minimum thickness of 60 microns across significant and/ or primary surfaces.
2. Minimum thickness of 25 microns on non-significant and/ or secondary faces ensuring a coherent film layer.
3. All cut edges, drilled holes and mitres to be fully sealed.
4. Cleaning and maintenance: Carried out once every three to twelve months (dependent on proximity to pollutant).

430 Extent of powder coatings

1. Application: To visible component surfaces, and concealed surfaces requiring protection. Coated surfaces will be deemed 'significant surfaces' for relevant BS 6496 or BS EN 13438 performance requirements.

435 Application of powder coatings

1. Surfaces to receive powder coatings: Free from dust or powder deposits.
2. Powder colours: Obtain from one batch of one manufacturer.
3. Commencement of powder coating: To be continuous from pretreatment.
4. Components to be installed on site in order of application.
5. Jig points: Not visible on coated components.
6. Curing: Controlled to attain metal temperatures and hold periods recommended by powder coating manufacturer.
7. Stripping and recoating of components: Only acceptable by prior agreement of powder coating manufacturer. Stripping, pretreatment and powder coating are to be in accordance with manufacturer's requirements.
8. Overcoating of components: Not acceptable.

440 Performance and appearance of powder coatings

1. For aluminium components
    1.1. Standard: To BS 6496 or BS EN 12206-1.
2. For steel components
    2.1. Standard: To BS EN 13438.
3. Visual inspection after powder coating: Significant surface viewing distances to be as specified in the relevant Standard, unless specified otherwise.
4. Colour and gloss levels: To conform with approved samples.

450 Aluminium alloy fabrications

1. Units may be assembled
    1.1. Before powder coating.
    1.2. From components powder coated after cutting to size.
    1.3. Where approved, from components powder coated before cutting to size.
2. Exposure of uncoated background metal: Not acceptable.
3. Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

460 Steel fabrications

1. Unit assembly: Wherever practical, before powder coating.
2. Exposure of uncoated background metal: Not acceptable.
3. Assembly sealants: Compatible with powder coatings. Obtain approval of colour if sealants are visible after fabrication.

470 Fixings

1. Exposed metal fixings: Powder coat together with components, or coat with matching repair paint system applied in accordance with the powder coating manufacturer’s recommendations.

480 Damaged components – repair or replacement

1. Before delivery to site: Check all components for damage to powder coatings. Replace damaged components.
2. Site damage: Submit proposals for repair or replacement.

510 Protection

1. Powder coated surfaces of components: Protect from damage during handling and installation, or by subsequent site operations.
2. Protective coverings must be
    2.1. Resistant to weather conditions.
    2.2. Partially removable to suit building in and access to fixing points.
3. Protective tapes in contact with powder coatings must be
    3.1. Low tack, self adhesive and light in colour.
    3.2. Applied and removed in accordance with tape and powder coating manufacturers' recommendations. Do not use solvents to remove residues as these are detrimental to the coating.
4. Inspection of protection: Carry out monthly. Promptly repair any deterioration or deficiency.

520 Protection in hazardous locations

1. Minimum thickness of 60 microns across significant and/ or primary surfaces.
2. Minimum thickness of 25 microns on non-significant and/ or secondary faces ensuring a coherent film layer.
3. All cut edges, drilled holes and mitres to be fully sealed.
4. Cleaning: Carried out once every three to twelve months (dependent on proximity to pollutant).

535 Documentation

1. Submit the following information for each batch of powder coated components
    1.1. Supplier.
    1.2. Trade name.
    1.3. Colour.
    1.4. Type of powder.
    1.5. Method of application.
    1.6. Batch and reference number.
    1.7. Statutory requirements.
    1.8. Test certificates.
    1.9. Maintenance instructions.

540 Completion

1. Protection: Remove any protective coverings.
2. Cleaning and maintenance of powder coatings: Carry out in accordance with procedures detailed in powder coating manufacturer and applicator guarantees.

Ω End of Section

Z33
Anodizing

To be read with preliminaries/ general conditions.

001 General

1. To be read with preliminaries / general conditions (HCC-HBA-XX-XX-SP-A-000100) and all other work sections.
2. This specification should be read with Employer's Requirements drawings which indicate visual intent and performance requirements. Stage 4 Detail Design to be developed at next stage by Contractor and their design team. The Contractor retains full responsibility for completing the Detail Design, execution of the works and for meeting the specified performance criteria.
3. This specification is to be read in conjunction with the Facade Consultant requirements & performance specification. Where they define more onerous performance requirements, these take precedence. Any discrepancies should be flagged to the design team.
4. Note existing building is Grade II Listed - before proceeding the contractor must comply with any planning / listed building conditions and obtain any approvals from the relevant authorities.

   Contractor to submit digital copies of written Method Statement and / or design proposals to Employer's Representative for works to existing Listed Building fabric to the satisfaction of the Conservation Officers and Historic England before works commence. The Contractor shall remain responsible for the selection of materials and the methods adopted for the works.

110 Anodic coating

1. Anodizer: Select one only of the following: United Anodisers or acceptable equivalent.
2. Selected anodizer: Submit details before commencement of anodizing, including:
   - 2.1. Name and contact details.
   - 2.2. Details of accreditation schemes.
   - 2.3. Technical data of product including current Agrément certificates.

210 Working procedures

1. Standard: To BS 3987 for anodic coatings on wrought aluminium.

220 Anodizer requirements

1. Processing
   - 1.1. Approved: By the Aluminium Finishing Association.
   - 1.2. Certified: To BS EN ISO 9001.
   - 1.3. Anodizing plant: Each anodizer to use only one plant.

230 Guarantees

1. Anodizer guarantees: Submit sample copies before commencement of anodizing.
2. Project specific guarantees: Submit signed copies on completion of work.
3. Guarantees to cover
   - 3.1. Life expectancy.
   - 3.2. Colour: Opacity and consistency.
   - 3.3. Texture: Gloss, satin or matt.

3.4. Quality of coating.

240 Control samples

1. Sequence: Prior to ordering materials for the works, obtain approval of appearance for:
   1.1. Anodic coated samples: Showing colour and texture variation.
   1.2. Fabrication samples: Showing joint assembly, how anodic coating is affected and how cut metal edges are finished and protected.

250 Independent inspection at plant

1. Requirement: Contractors/ suppliers of the following designated components must commission an approved Independent Inspection Authority to carry out acceptance inspections to confirm that anodic coating application complies with this specification.
   1.1. Designated components:
2. Acceptance inspections: Carry out for each variation of colour and finish of each component work package at anodizer's plant prior to any fabrication of units, in accordance with the following:
   2.1. Where three of more production runs are required for application of coatings, not less than three acceptance inspections must be carried out in accordance with BS 6001-1, general inspection level 2, with an acceptance quality limit of 1%.
   2.2. Where less than three production runs are required for application of coatings, one acceptance inspection must be carried out in accordance with BS 6001-2, with a limiting quality of 5% where the probability of acceptance is 10%.
3. Components failing inspection: Reprocess or replace and reinspect.
4. Inspection reports: Independent Inspection Authority must submit copies.

255 Quality assurance system

1. Requirement: Powder and coating application to the following designated components is to be tested and approved in accordance with the Qualanod system.
   1.1. Designated components: All.

270 Component design

1. Condition of components to be anodized
   1.1. To comply with relevant recommendations of BS 4479-1, and -5.
   1.2. Of suitable size to fit plant capacity.

310 Pretreatment

1. Condition of components to be anodized
   1.1. Free from corrosion and damage.
   1.2. Suitable for and compatible with the pretreatment and anodizing process.
2. Process: In accordance with the specification requirements for the finish.

410 Extent of anodic coatings

1. Application: To visible component surfaces, and concealed surfaces requiring protection. Coated surfaces will be deemed ‘significant surfaces’ for relevant BS 3987 performance requirements.

420 Application of anodic coatings

1. Surfaces to receive anodic coatings: Clean.
2. Commencement of anodic coating: To be continuous from pretreatment.
3. Jig points: To be agreed. Not on visible areas of anodic coated components.
4. Use of touch-up paint: Not acceptable.

430 Performance and appearance of anodic coatings

1. Standard: To BS 3987.
2. Visual inspection after anodizing: Significant surfaces to be free from visible coating/ defects when viewed from a distance of not less than 5 m for external and 3 m for internal applications.

440 Fabrication

1. Units may be assembled
    1.1. Before anodizing, providing sufficient drainage holes are included in components to fully drain components.
    1.2. From components anodized after cutting to size.
    1.3. Where approved, from components anodized before cutting to size.
    1.4. Exposure of uncoated background metal: Not acceptable.
    1.5. Assembly sealants: Compatible with anodic coatings. Obtain approval of colour if sealants are visible after fabrication.

450 Damaged components – repair/ replacement

1. Before delivery to site: Check all components for damage to anodic coatings. Replace damaged components.
2. Site damage: Submit proposals for repair or replacement.

510 Protection

1. Anodic coated surfaces of components: Protect from damage during handling and installation, or by subsequent site operations.
2. Protective coverings: Must be:
    2.1. Resistant to weather conditions.
    2.2. Partially removable to suit building in and access to fixing points.
3. Protective tapes in contact with anodizing to be
    3.1. Low tack, self adhesive and light in colour.
    3.2. Applied and removed in accordance with tape and anodizers recommendations.
4. Inspection of protection: Carry out weekly. Promptly repair any deterioration or deficiency.

530 Documentation

1. Submit the following information for each batch of anodic coated components
    1.1. Supplier.
    1.2. Trade name.
    1.3. Colour (if required).
    1.4. Batch and reference number.
    1.5. Statutory requirements.

540 Completion

1. Protection: Remove.
2. Cleaning and maintenance of anodic coatings: Carry out in accordance with procedures detailed in anodizer's guarantees.

Ω End of Section

END OF DOCUMENT