



HORNSEY POLICE STATION, LONDON
Overheating Assessment – Design Stage

HORNSEY POLICE STATION, LONDON

Overheating Assessment

Client: Archanaeum Ltd

Engineer: Create Consulting Engineers Limited
15 Princes Street
Norwich
Norfolk
NR3 1AF

Tel: 01603 877010
Email: enquiries@createce.co.uk
Web: www.createce.co.uk

Report By: Mirza Baig, NDEA, OCDEA, MSc, BEng, Energy and Sustainability Consultant

Checked By: Sunanda Swain, Technical Director, Sustainability

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Revision and Date	Amendment Details	Revision Prepared By	Revision Approved By

EXECUTIVE SUMMARY

Create Consulting Engineers Ltd has been commissioned to update the overheating report (Ref: P2-2562) to comply with the London Borough of Haringey's post-planning requirements, as specified in Section 27 of the Schedule of Appendix in the Section 106 Agreement. This report pertains to the proposed residential-led development at Hornsey Police Station, located within the constituency of Hornsey and Wood Green, London.

The overheating assessment has been carried out in accordance with TM49: Design Summer Years for London 2014 as stipulated by the GLA (Greater London Authority). This study has also been completed in accordance with TM59: Design Methodology for the assessment of overheating risk in homes and will use the overheating guidelines set out in TM52: The limits of Thermal Comfort: Avoiding Overheating in European Buildings 2013 (the latest guidance from the Chartered Institute of Building Services Engineers (CIBSE) for overheating in non-air-conditioned European buildings).

The overheating risk assessments have been carried out using TM59 with the latest DSY weather files. Passing the overheating criteria for the 2020s, high emissions, 50th percentile scenario is necessary using the most suitable DSY1 file for the site location. While other files like DSY2 and DSY3, which represent more extreme conditions, can be used to test designs further, passing against these files is not mandatory for TM59. IES VE (Integrated Environmental Solutions Virtual Environment), a dynamic thermal modelling software tool, has been used to predict the temperatures of the living spaces inside the scheme.

The overheating modelling results of the proposed new-build and refurbished dwellings, both houses and flats, with the proposed overheating mitigation strategy, demonstrate that the measures achieve compliance with the DSY1 weather data file.

A summary of the overheating results for the residential development is presented in the table below.

Design Weather Scenario	Total Number of Assessed Spaces	Total Number of Rooms Pass Overheating Criteria	Total Number of Rooms fail Overheating Criteria
Habitual Rooms			
DSY1_2020H50	105	105	00

Design Weather Scenario	Total Number of Assessed Corridors	Total Number of Corridors Pass Overheating Criteria	Total Number of Corridors fail Overheating Criteria
Communal Corridors			
DSY1_2020H50	04	04	00

The proposed mitigation measures for overheating align with the cooling hierarchy specified in the London Plan (2021), Policy SI4. Compliance with the overheating criteria has been achieved by incorporating key design features and measures, as detailed in the table below.

Key Measure	Dwellings effected by noise and/or security issues	Communal Corridors
Solar Glazing Control	Optimized g-value: For all south-facing windows, $g = 0.25$. for all north-facing windows, $g = 0.52$.	
External Shading	Balconies and external shutter blinds will be installed to limit solar gain in south-facing habitable spaces, which are prone to overheating.	No
Natural Ventilation	Due to the high noise levels during the day and nighttime, occupants are constrained from using windows and balcony doors.	
Mechanical Ventilation	Enhanced ventilation when the internal temperature exceeds the external temperature and exceeds 22°C. The MVHR system, along with the TD Silent extract fan, is installed in the bedrooms that are prone to overheating.	N/A
Green Infrastructure	Proposed green roof, landscaping and trees will help reduce the urban heat island effect.	

1.0 INTRODUCTION

- 1.1 Create Consulting Engineers Ltd has been commissioned by Archanaeum Ltd to prepare an overheating analysis to support a post planning condition for the proposed development at Hornsey Police Station, London.
- 1.2 The proposal comprises the development of the construction of a new residential development and refurbishment of 29 units in the form of houses and flats.
- 1.3 This report demonstrates how temperatures reached inside the building were predicted using dynamic simulation modelling and whether these results comply with guidance contained with the London Plan, TM49, TM52, and TM59.

Objectives:

- 1.4 This Overheating Report is for Design Stage 4 and aims to meet the London Borough of Haringey's post-planning requirements as outlined in Section 27 of the Schedule of Appendix in the Section 106 document. It updates the Overheating Assessment Report (ref: P22-2562) submitted in July 2023. The update includes:
- **Updated Modelling:** Units will be modelled using CIBSE TM59 guidelines and CIBSE TM49 London Weather Centre data for DSY1-3 (2020s), DSY1 2050s, and 2080s, under high emissions scenarios.
 - **External Blinds:** Clarification on which windows will have external shutters installed.
 - **Cooling Hierarchy Compliance:** Demonstration that the DSY1 2020s scenario meets the mandatory pass criteria, following the Cooling Hierarchy with external shutters, and compliance with Building Regulations Part O, ensuring risks related to crime, noise, and air quality are properly addressed.
 - **Future Weather Mitigation:** Modelling of mitigation measures to pass future weather scenarios, specifying which measures will be implemented before occupation and which will be part of a retrofit plan.
 - **Design Integration:** Confirmation that retrofit measures can be integrated into the design.
 - **Responsibility for Mitigation:** Identification of the party responsible for managing overheating risks once the development is occupied.

2.0 MODEL INFORMATION

Dynamic Thermal Analysis Software

- 2.1 The thermal model was produced using IES VE version 2023, a full dynamic simulation modelling software capable of performing simulations for large and complex buildings. IES VE can produce accurate predictions of internal temperatures to allow designers to make decisions on cooling and ventilation strategies.

Site Location and Description

- 2.2 The Site is located to the south of Harold Road in constituency of Hornsey and Wood Green, London. Please refer to the Site Location plan below for details (Figure 2.1).



Figure 2.1: Site Location Plan (Source: Archanaeum Ltd)

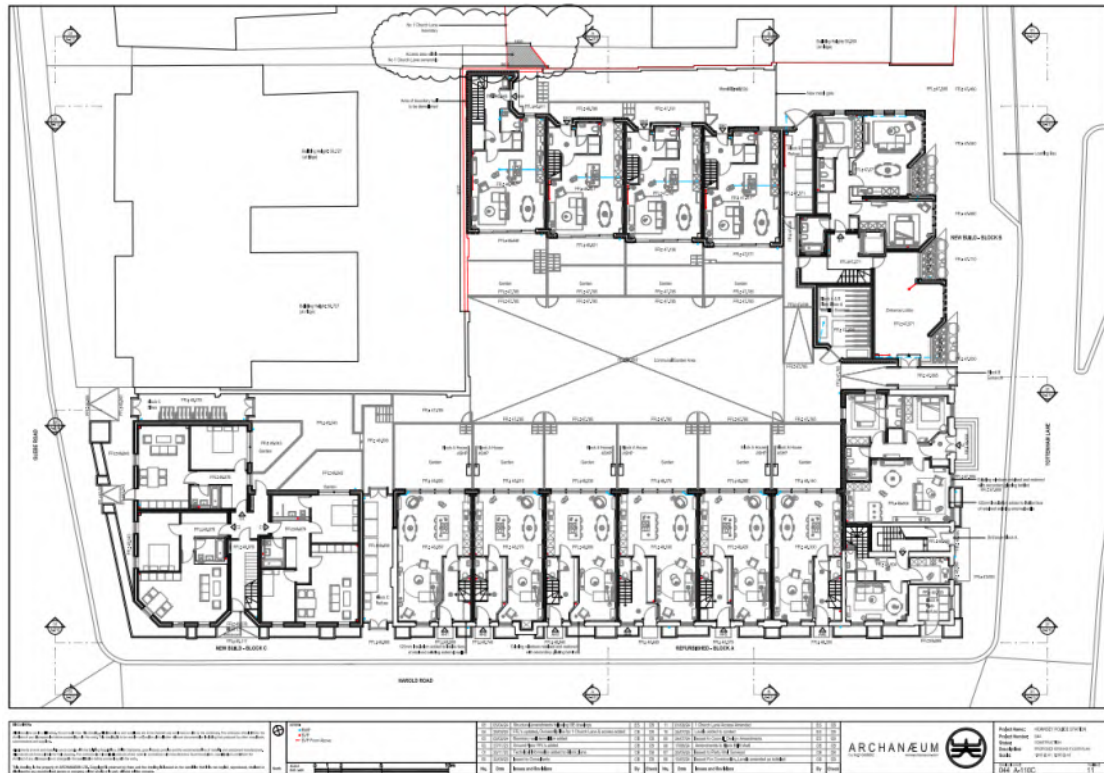


Figure 2.2: Proposed site plan (source: Archanaeum Ltd)

2.3 This report details information gathered from consultation with the design team.

Unit Sampling and Layouts

2.4 A sample of buildings have been selected for the study. This sample represents those buildings that are deemed most at risk of overheating. This risk was analysed based on the following criteria:

- Those with large glazing areas
- Those on the topmost floor
- Those having less shading
- Those having large, sun-facing windows
- Those having a single aspect
- Those with limited opening windows

2.5 Based on the above assessment criteria, it has been decided that all houses and flats from all three blocks to be assessed.

2.6 The software generated images of the site, below, show the location of the selected, assessed spaces within the development.

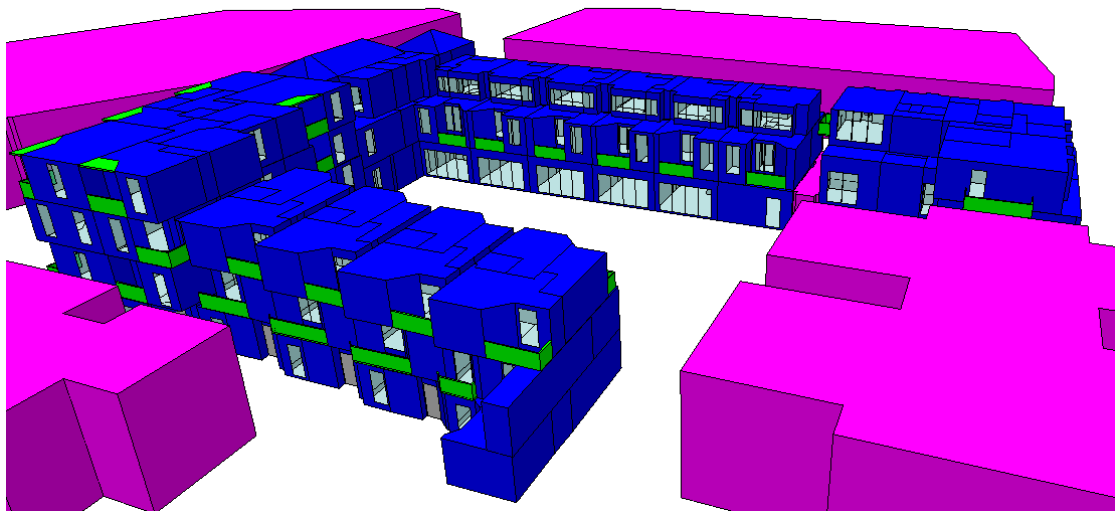


Figure 2.3: IES VE generated model, north-west view (blue areas represent modelled spaces)

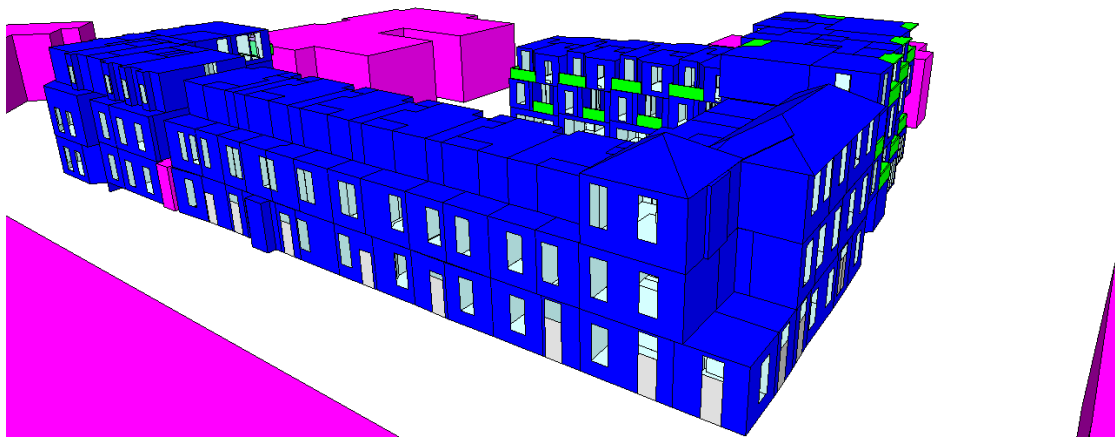


Figure 2.4: IES VE generated model, south-east view (blue areas represent modelled spaces)

GLA Requirements and CIBSE TM49: Design Summer Years for London

- 2.7 The GLA (Greater London Authority) requires that the overheating assessment be carried out in accordance with TM49 which advises that weather data should be selected based on an appropriate level of risk and probability for the building which can be established through informed discussion between the design team, client and the other stakeholders involved in the project.

2.8 The GLA goes on to state that overheating modelling should be conducted using three design weather years. These weather years are as follows:

- DSY1 for 2020s, high emissions, 50% percentile scenario
- DSY2 - 1989: a moderately warm summer (current design year for London)
- DSY3 - 2003: a year with a very intense single warm spell

CIBSE TM52: The limits of thermal comfort: avoiding overheating in European buildings

2.9 TM52, released in July 2013, sets out to identify the many different factors that affect thermal comfort and uses these to define a new set of criteria for measuring unacceptable levels of overheating. Until the release of TM52, the standard approach was to use CIBSE Guide A, which was based on not exceeding a single limiting temperature:

- 25°C for >5% of occupied hours
- 28°C for >1% of occupied hours

2.10 TM52 uses an adaptive approach for building occupant comfort. The adaptive approach to thermal comfort is based on the findings of field surveys in workplaces and other building types. It is now accepted as the standard approach to specifying target temperatures in non-air conditioned buildings where indoor conditions are less easy to control.

2.11 TM52 uses three criteria to predict whether a building will over-heat. Two out of three criteria must be met in order for a building to be deemed as not overheating. The three criteria are:

- Threshold temperature exceeded $\nless 3\%$ of occupied hours per year
- Daily weighted exceedance (degree hours) $\nless 6$
- Temperature $\nless$ upper limit

CIBSE TM59: Design methodology for the assessment of overheating risk in homes

2.12 In April 2017, CIBSE released TM59 which defines a peer reviewed methodology for the assessment of overheating risk in residential developments.

2.13 Whilst not currently stipulated in any legislation, it is suggested by CIBSE that this methodology be used to ensure a standardised approach to model generation and reporting for the assessment of overheating. The method suggested somewhat differs from the previous approach in that it specifies many of the inputs used to perform the analysis, whereas previously, these inputs have been based on the design team's assumptions of how the building is likely to be used. The methodology has been proven on a number of case study projects in London and is thought to give a better overall picture of the comfort that can be expected within a residential development.

Overheating Criteria

- 2.14 In accordance with TM59, all domestic spaces (kitchens, living rooms, bedrooms, bathrooms, and halls) should be included in the assessment. Bathrooms and halls do not, however, have to pass any criteria to be compliant but are still included in the assessment.
- 2.15 The criteria for TM59, for naturally ventilated dwellings, are as follows:
- *“For living rooms, kitchens and bedrooms: the number of hours during which ΔT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3% of occupied hours.” This is CIBSE TM52 Criterion 1.*
 - *“For bedrooms only: The operative temperature in the bedroom from 22:00 – 07:00 shall not exceed 26°C for more than 1% of annual hours” (i.e. 33 hours and over is a failure).*
- 2.16 TM59 also requires that where an operative temperature of 28°C occurs within a corridor for more than 3% of total annual hours, this should be flagged as a significant risk. If any such occurrences exist, these will be flagged in Section 3 of this report.
- 2.17 Corridors are defined as any public areas from which apartments are accessed.
- 2.18 The non-domestic spaces within the development will be assessed against TM52. TM52 has three criteria, two of which must be passed to reach compliance:
- Criterion 1: Hours of Exceedance
 - The number of hours during which ΔT is greater than or equal to one degree (K) during the period May to September inclusive shall not be more than 3% of occupied hours.
 - Criterion 2: Daily Weighted Exceedance
 - The weighted exceedance shall be less than or equal to 6 in any one day. This criteria deals with the severity of overheating within any one day and is a function of both magnitude and duration.
 - Criterion 3: Upper Limit Temperature
 - The value of ΔT shall not exceed 4K. This criteria sets an absolute limit for the indoor operative temperature.

Construction Elements and Thermal Mass

- 2.19 All construction elements/materials in the model have been created according to information agreed with the client and the design team. The following U-Values and design parameters have been used:

Building Element/Characteristic	Part L1, 2021 Reference Values for Notional Building	Proposed values
External Wall - U value (W/m ² K)	0.26	New Built- 0.18 Refurb - 0.17
Ground/Exposed upper floor	0.18	0.07
Roof - U value (W/m ² K)	0.16	0.07
Windows - U value (W/m ² K)	1.60	1.20 (For all South, East, West- facing windows g= 0.25) (For all North facing windows g= 0.52)
Doors - U value (W/m ² K)	1.60	0.98

Table 2.1: Construction Element Information

- 2.20 Thermal mass calculations have also been included in the model as they are automatically calculated by IES VE. The thermal mass is incorporated into the construction on the basis of the elements/materials information calculated by IES VE.

Ventilation Strategy

- 2.21 It is proposed that all houses and flats within the three blocks (A, B, and C) of the Hornsey Police Station will be equipped with Vent-Axia Sentinel Plus B system. These mechanical ventilation with heat recovery (MVHR) systems, which include a summer bypass feature, are designed to retain heat during the winter months and efficiently release excess heat during the summer, ensuring optimal thermal comfort and energy efficiency throughout the year.
- 2.22 According to TM59 requirements, internal doors of bedrooms are assumed to be left open during the daytime and closed at night. Living rooms are proposed to remain open both day and night to enhance air movement and reduce the risks of overheating.
- 2.23 Due to concerns regarding noise, mechanical ventilation is proposed as the preferred option since natural ventilation is not feasible in this scenario.
- 2.24 According to the occupancy profiles specified by TM59, it is required that all bedrooms remain occupied at 75% throughout the day. Due to confirmed noise-related issues outlined in the 20858/Noise Assessment Report by Sprat+Hamer, natural ventilation through windows at all dwellings within Hornsey Police Station is restricted. As a result, all windows across the blocks have been modelled as closed.
- 2.25 Details of the infiltration rates and ventilation rate to be found in Appendix A.

Plans and Elevations

- 2.26 All plans and elevations have been taken from files received 01/08/2024 from Archanaeum.

Weather files and Thermal Comfort Category

- 2.27 As specified in Section 27 of the Schedule in Appendix of the Section 106 Agreement, the London Borough of Haringey mandates that overheating modelling must be conducted using both current and future design weather years. These weather years are defined as follows:

- DSY1 for 2020s, high emissions, 50% percentile scenario (London Weather Centre)
- DSY2 for 2020s, high emissions, 50% percentile scenario (London Weather Centre)
- DSY3 for 2020s, high emissions, 50% percentile scenario (London Weather Centre)
- DSY1 for 2050s: high emission, 50% percentile scenario (London Weather Centre)
- DSY1 for 2080s: high emission, 50% percentile scenario (London Weather Centre)

- 2.28 The thermal comfort category defined for this project is: Category II, as defined by TM52 Table 2.

- 2.29 The summer (elevated) air speed ms^{-1} for the calculation of TM52 used in this report is 0.15.

Occupancy and Gain Profiles

- 2.30 All occupancy and gain profiles for domestic spaces have been modelled according to TM59.

- 2.31 The TM59 prescribed weekly profiles for occupancy, heating and internal gains have been used.

Exposure Type

- 2.32 The model has been set up to 'semi-exposed wall' type for the purposes of determining wind pressure coefficient as per IES VE guidance.

Modelling Assumptions

- 2.33 To complete the modelling and to achieve robust and meaningful results, certain assumptions had to be made. These, along with the information detailed in section 2, form the basis of the overheating analysis carried out for the development.

- Trees and Adjacent buildings were modelled to mitigate risk of overheating.

3.0 RESULTS OF THE ASSESSMENT

- 3.1 The TM59 methodology necessitates that units meet the overheating criteria using the DSY1 weather file. While other files, including the more extreme DSY2 and DSY3 files, can be utilized to further assess designs, achieving a pass against these alternative weather files is not obligatory for TM59 compliance.
- 3.2 The overheating assessment is carried out based on the Haringey's key Overheating planning application requirements.

Results- Baseline Scenario

- 3.3 During the baseline scenario, all blocks are tested with closed windows and no mechanical ventilation provided.

Opening Type
■ XTRN0007 (Windows/Door Closed)
■ XTRN0012 (Internal Door KD)
■ XTRN0015 (Internal Door Bed)

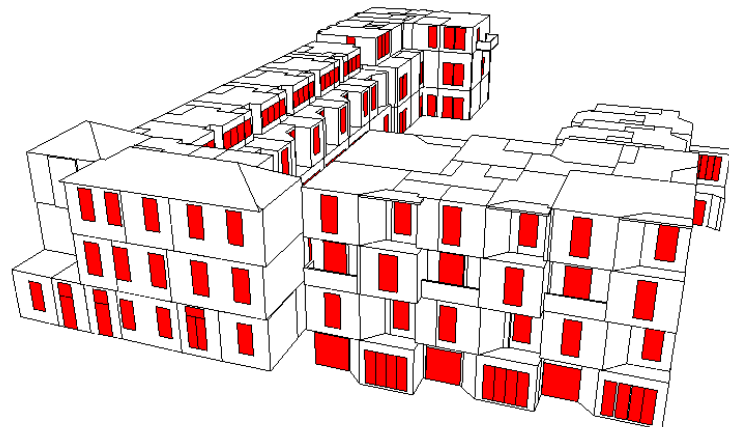


Figure 3.1: Baseline Model- East Elevation

Opening Type
■ XTRN0007 (Windows/Door Closed)
■ XTRN0012 (Internal Door KD)
■ XTRN0015 (Internal Door Bed)

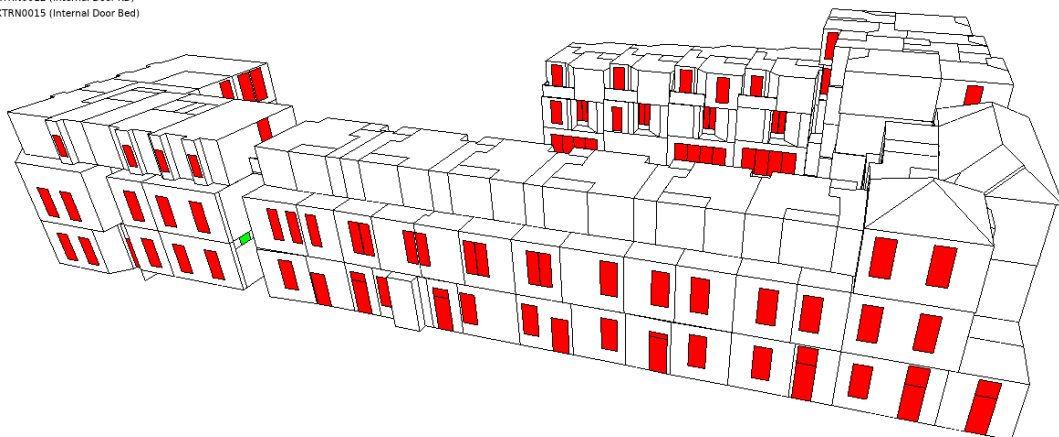


Figure 3.2: South Elevation

- 3.4 As part of the passive design strategy, windows facing the southeast and west will be equipped with low-emissivity glass featuring a g-value of 0.25. For detailed model images illustrating the application of this g-value to the windows, please refer to Appendix B.
- 3.5 The proposed design of the development was tested by initially assessing the modelled dwellings. Due to the high noise levels, the windows are modelled to remain closed during both day and night, limiting natural ventilation. The modelling results are summarized in the table below and are presented in full in Appendix C.

Design Weather Scenario	Total Number of Assessed Spaces	Total Number of Rooms Pass Overheating Criteria	Total Number of Rooms fail Overheating Criteria
Habitual Rooms			
DSY1_2020H50	105	04	101

Design Weather Scenario	Total Number of Assessed Corridors	Total Number of Corridors Pass Overheating Criteria	Total Number of Corridors fail Overheating Criteria
Communal Corridors			
DSY1_2020H50	04	02	02

Table 3.1: Results DSY1- Baseline

- 3.6 During the analysis, it was observed that a majority of the occupied spaces fail the Overheating assessment due to high internal heat gains and solar gains, as indicated in the graph below from IES.

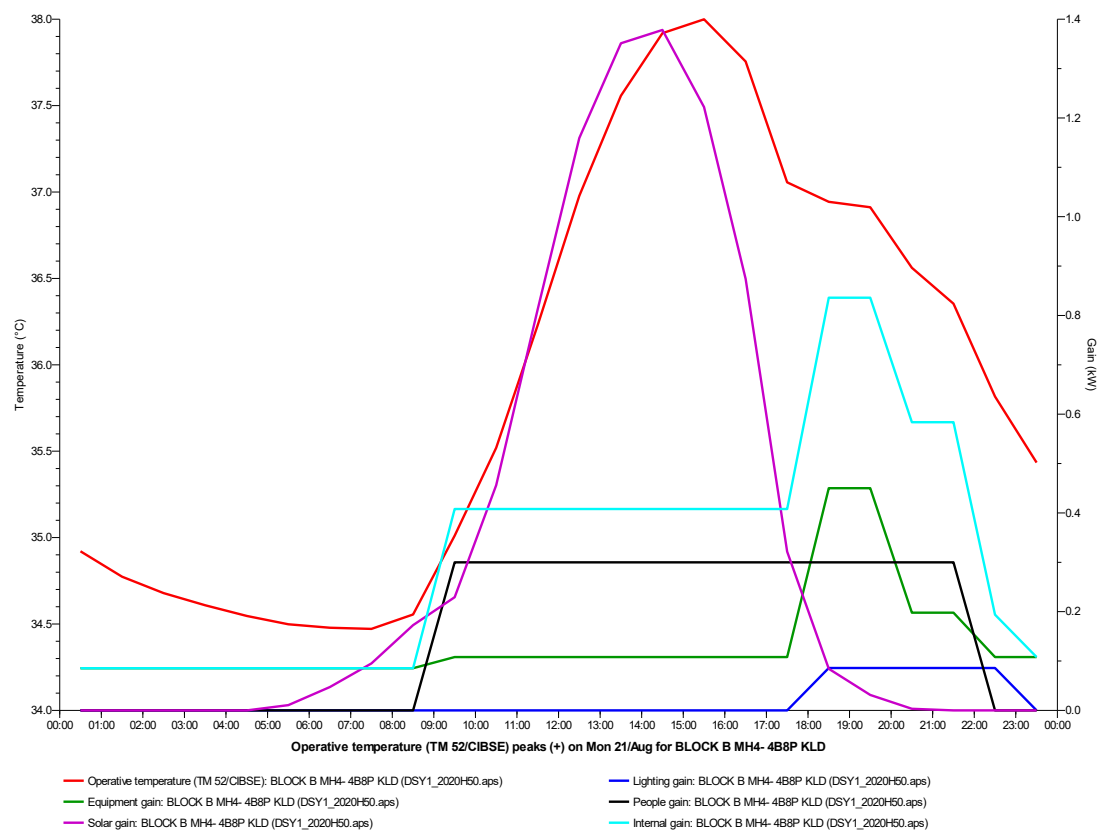


Figure 3.3: Peak Day Internal Gains Kitchen Living Dining -MH4 Block B (DSY1_2020H50)

Results- Baseline + Mitigation Strategy 1

- 3.7 In the baseline scenario, the majority of occupied spaces failed to meet the overheating criteria, primarily due to excessive solar gains. To address this issue, external blinds will be implemented as a passive strategy in the south, east, and west-facing occupied rooms of Blocks B and C. However, external blinds are not proposed for the occupied rooms with windows on the street-facing elevations of Blocks B and C. These areas are particularly susceptible to overheating due to their high exposure to solar gain. The implementation of external blinds is designed to effectively reduce solar heat gain and improve thermal comfort. Additionally, residents will have the option to use internal blinds throughout the development's lifespan or replace them with blinds that offer an equal or greater shading coefficient, ensuring ongoing protection against overheating.
- 3.8 Block A is a listed building, restricting any alterations to its external appearance, including the installation of external blinds. However, occupants are permitted to install internal blinds to help manage and limit solar gains.
- 3.9 The design team has evaluated external blinds from Caribbean Blinds UK, with a focus on the Antiguan and Dominica models. These blinds utilize advanced solar shading technology, achieving a shading coefficient of 0.05 for the selected fabric (ref: 338 071-flint), significantly reducing solar heat gain and enhancing thermal performance while preserving outward visibility. The blinds are engineered for durability, featuring weather-resistant materials and motorized operation for user convenience. The fixing mechanism includes high-strength, corrosion-resistant brackets, ensuring secure attachment to a variety of building façades. Additionally, these blinds provide excellent thermal insulation and are available in a diverse array of customizable colours and finishes, allowing them to seamlessly integrate with the building's aesthetic. Refer to Appendix J for product datasheet for external blinds.
- 3.10 The external blinds, specifically assigned to the habitual rooms, are shown in the images below and elevation plans provided in Appendix K.



Figure 3.4: External Blinds - Block C (Northeast Elevation)

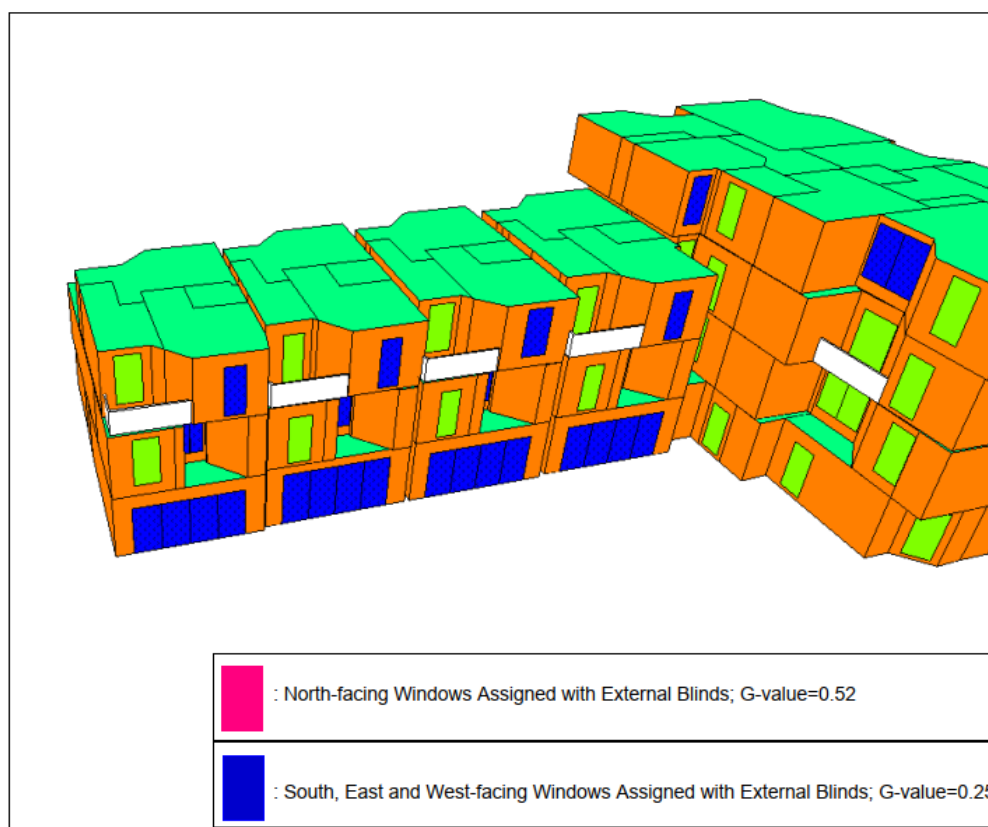


Figure 3.5: External Blinds (Southwest Elevation- Block B)

- 3.11 The table below presents the results achieved by implementing the proposed passive strategy of installing external blinds on south, east, and west-facing bedrooms. For detailed results, please refer to Appendix D.

Design Weather Scenario	Total Number of Assessed Spaces	Total Number of Rooms Pass Overheating Criteria	Total Number of Rooms fail Overheating Criteria
Habitual Rooms			
DSY1_2020H50	105	05	100

Design Weather Scenario	Total Number of Assessed Corridors	Total Number of Corridors Pass Overheating Criteria	Total Number of Corridors fail Overheating Criteria
Communal Corridors			
DSY1_2020H50	04	02	02

Table 3.2: Results DSY1- Baseline

Results- Baseline + Mitigation Strategy 2

- 3.12 The proposed development cannot achieve Overheating compliance solely through passive measures. Active solutions, such as mechanical ventilation, are necessary because a significant number of rooms are failing to meet requirements due to inadequate ventilation. This issue arises primarily from the limited effectiveness of natural ventilation, as windows are often kept closed during both day and night to mitigate noise concerns.
- 3.13 Following the recommendations of the Mechanical & Electrical (M&E) design team, the MVHR units for all dwellings in the proposed development will be fitted with Vent-Axia Sentinel Plus B units. These units are capable of delivering an airflow rate of 111 l/s. Detailed product specifications and datasheets can be found in Appendix L.
- 3.14 To address the issue of overheating in certain bedrooms, it has been determined that MVHR alone may not provide sufficient ventilation due to its limited capacity. Therefore, to ensure adequate air exchange and temperature control, TD Silent extract fans will be installed alongside the MVHR system in smaller bedrooms and rooms particularly susceptible to overheating. The rooms where extract fans will be installed are indicated in the plans provided in Appendix N. This combined approach will enhance ventilation efficiency and help maintain a comfortable indoor environment. Detailed product specifications and datasheet for extract fan is available in Appendix M.
- 3.15 The M&E design team has provided detailed drawings that specify the locations of the MVHR units and extract fans, including their respective flow rates and the arrangement of rigid ducting, for two typical dwellings: one house and one flat in Block B. These drawings, referenced in Appendix N, will serve as the standard methodology for all other houses and flats in the project.
- 3.16 Table 3.3 presents the results of modelling the proposed overheating mitigation strategy for the residential development. The strategy includes the implementation of cross ventilation through internal doors and the use of external blinds to reduce solar heat gain. Additionally, MVHR is employed in all habitable spaces to ensure adequate ventilation while maintaining thermal comfort, and extract fans are installed in small bedrooms and other rooms prone to overheating to further enhance airflow and temperature control.

Design Weather Scenario	Total Number of Assessed Spaces	Total Number of Rooms Pass Overheating Criteria	Total Number of Rooms fail Overheating Criteria
Habitual Rooms			
DSY1_2020H50	105	105	00

Design Weather Scenario	Total Number of Assessed Corridors	Total Number of Corridors Pass Overheating Criteria	Total Number of Corridors fail Overheating Criteria
Communal Corridors			
DSY1_2020H50	04	04	00

Table 3.3: Results DSY1- Baseline + Strategy 2

- 3.17 The overheating modelling results of the proposed strategy demonstrate that all the modelled habitable rooms and corridors pass the overheating criteria with the DSY1 weather data file. The detailed modelling results of the proposed strategy are presented in Appendix E.
- 3.18 The overheating modelling results demonstrate that achieving compliance with DSY2 and DSY3, as well as the more extreme weather files, is more challenging. These weather files represent rarer events occurring only every 7.7 and 11.1 years, respectively. A summary of the modelling results for the DSY2 and DSY3 weather files is provided in Table 3.4 for the reference only. The modelling results for the proposed overheating strategy have been thoroughly analysed using DSY2-3 (2020s) and DSY1 (2050s and 2080s) high emissions, 50th percentile weather files, with the detailed findings presented in Appendices F-I.

Design Weather Scenario	Total Number of Assessed Spaces	Total Number of Rooms Pass Overheating Criteria	Total Number of Rooms fail Overheating Criteria
Habitual Rooms			
DSY2_2020H50	105	105	00
DSY3_2020H50	105	105	00
DSY1_2050H50	105	105	00
DSY1_2080H50	105	105	00

Design Weather Scenario	Total Number of Assessed Corridors	Total Number of Corridors Pass Overheating Criteria	Total Number of Corridors fail Overheating Criteria
Communal Corridors			
DSY2_2020H50	04	04	00
DSY3_2020H50	04	04	00
DSY1_2050H50	04	04	00
DSY1_2080H50	04	04	00

Table 3.4: Results DSY1- Baseline + Strategy 2

- 3.19 During extreme weather conditions, it is recommended that occupants be educated on heat-reducing measures, such as keeping windows closed during peak heat hours. Cooling devices, like portable fans, should be used to cool the room. Energy-efficient lighting should be chosen to reduce heat emission from artificial sources. The use of heat-generating appliances should be minimized during peak hours.

Cooling Hierarchy:

- 3.20 The cooling hierarchy has been thoroughly assessed to support the proposal. The proposed strategies align with the requirements of the London Plan (2021) Policy SI4 and the Haringey Local Plan (2017) Policies SP4 and DM21.
- 3.21 **Reduce the amount of heat entering the building:** The proposed development at Hornsey Police Station has been designed in alignment with the cooling hierarchy. Although the site has limitations regarding orientation, several other measures have been integrated to minimize heat gain:
- **Shading:** Shading will be provided by balconies and adjacent buildings. Additionally, External blinds will be provided to bedrooms which are prone to overheating.
 - **High Albedo Materials:** Light-coloured materials will be used on surfaces, as they are more reflective and result in lower surface temperatures and reduced heat absorption.
 - **Insulation:** Walls, floors, and roofs will be well-insulated to reduce heat transfer.
 - **Green Infrastructure:** A green roof and landscaping are proposed to enhance thermal performance.
 - **Fenestration:** Double-glazed windows with a low g-value will be installed on the façade to limit solar gain.
- 3.22 **Minimise internal heat generation through energy-efficient design:**
- **High-Efficiency Systems:** The building will be equipped with energy-efficient appliances and systems, including LED lighting, low-energy heating systems, and MVHR. These technologies are designed to operate efficiently with minimal heat output, helping to reduce overall internal heat generation within the building.
 - **Individual Heating Systems:** Each dwelling will be equipped with an individual heating system, which reduces the need for extensive communal piping. To further prevent internal heat buildup, all pipework within each dwelling will be well-insulated, ensuring that heat loss is minimized, and excess heat generation is avoided
- 3.23 **Manage heat within the building through exposed internal thermal mass and high ceilings:** The design incorporates exposed thermal mass and high ceilings to efficiently manage heat and maintain thermal comfort.
- 3.24 **Provide passive ventilation:** Due to noise constraints, passive ventilation through windows is unlikely. However, cross-ventilation will be facilitated through internal doors to ensure airflow.
- 3.25 **Provide mechanical ventilation:** Given the limitations on natural ventilation, mechanical ventilation will be installed in all

habitable spaces. This system will ensure that all spaces remain comfortable during potential overheating conditions.

Measures Forming Part of the Retrofit Plan:

3.26 Advanced Shading Enhancements:

- **Upgraded External Shading Solutions:** As part of the retrofit plan, advanced shading technologies such as automated louvers or dynamic shading systems may be installed to further mitigate overheating in specific areas identified through post-occupancy evaluations.

3.27 Additional Insulation Layers:

- **Insulation Upgrades:** Future retrofits may include the addition of supplementary insulation layers or the use of advanced insulating materials to enhance the thermal performance of the building envelope.

3.28 Enhanced Green Infrastructure:

- **Irrigation and Additional Planting:** The retrofit plan includes provisions for the installation of irrigation systems and the expansion of green infrastructure, such as additional green walls or rooftop gardens, to improve the building's thermal regulation over time.

3.29 Passive Ventilation Enhancements:

- **Trickle Vents or Passive Ventilation Systems:** Additional passive ventilation measures, such as the installation of trickle vents or other low-energy ventilation systems, may be incorporated into the retrofit plan to complement existing ventilation strategies.

3.30 Advanced Fenestration Upgrades:

- **Triple Glazing or Advanced Window Coatings:** Future retrofits may involve upgrading windows to triple glazing or applying advanced solar-control coatings to further limit solar gain and reduce internal temperatures.

3.31 Mechanical Ventilation Upgrades:

- **MVHR with Hybrid Cooling Systems:** The retrofit plan includes provisions for upgrading the existing MVHR systems to MVHR systems integrated with hybrid cooling. This enhancement will not only improve the efficiency of the ventilation

system but also introduce active cooling capabilities, offering a more robust solution to reduce overheating risks and maintain thermal comfort.

- 3.32 These measures ensure that proposed development at Hornsey Police Station will be well-equipped to manage overheating both immediately upon occupation and in the long term, through a thoughtful and flexible retrofit plan.

Confirmation of Responsibility for Overheating Risk Mitigation:

- 3.33 Once the development is occupied, responsibility for mitigating overheating risks will be divided as follows:
- **Landlord/Estate Office (Communal Areas):** The operational responsibility for mitigating overheating risks in communal areas will rest with the Landlord, managed through the Estate Office. This includes ensuring that all communal spaces, such as hallways, lobbies, and shared facilities, are adequately ventilated and maintained to prevent overheating.
 - **Residents (Individual Accommodation):** Residents will be responsible for managing overheating risks within their own dwellings. They will have control over their windows, blinds, and other cooling mechanisms, such as fans. It will be the residents' responsibility to utilize these features effectively to maintain a comfortable indoor environment and address any overheating concerns in their personal spaces.
- 3.34 A comprehensive Building Use Guide detailing all overheating mitigation strategies will be provided to all new residents by the contractor, ensuring they are fully informed on how to maintain a comfortable indoor environment.

Summary

3.35 The updated overheating assessment for the proposed development was conducted using CIBSE TM59 standards and CIBSE TM49 London Weather Centre files for DSY1-3 (2020s) and DSY1 (2050s and 2080s) under high emissions scenarios (50% percentile). The key findings and proposed strategies are summarized as follows:

- **Window Shutter Installation:** The report confirms the specific windows where external shutters will be installed, as illustrated in Figures 3.4-3.7 and detailed in Appendices J-K.
- **Compliance with DSY1 2020s and Building Regulations Part O:** The proposed development achieves a mandatory pass for DSY1 2020s by adhering to the Cooling Hierarchy and implementing external shutters, cross ventilation, and MVHR with extract fan. These strategies mitigate risks associated with noise while ensuring compliance with Building Regulations Part O.
- **Mitigation for Future Weather Files:** The report outlines the necessary mitigation measures to meet future climate scenarios (2050s and 2080s), distinguishing between those to be implemented before occupation and those included in the retrofit plan.
- **Retrofit Plan and Integration:** The retrofit plan, detailed in sections 3.25-3.31, aligns with the Cooling Hierarchy and confirms that the necessary infrastructure includes advanced shading enhancements, additional insulation layers, enhanced green infrastructure, passive ventilation, advanced fenestration upgrades, and a mechanical ventilation system with hybrid cooling capabilities.
- **Responsibility for Overheating Risk Mitigation:** The operational responsibility for mitigating overheating risks in communal areas will rest with the landlord, while residents will be responsible for managing overheating risks within their own dwellings.
- **External Blinds/Shutters Details:** The design team has selected external blinds from Caribbean Blinds UK, specifically the Antigua and Dominica models, for use in bedrooms. Detailed information on the fixing mechanisms, specifications, and shading coefficients for these models is provided in section 3.7 and Appendix J.
- **Implementation of Overheating Measures:** The development will be constructed in accordance with the approved overheating mitigation measures and maintained for the building's lifetime. Key measures include:
 - a. External roller shutters (section 3.7 and Appendices J-K)
 - b. MVHR with extract fans (sections 3.11-3.12 and Appendices L-N))
 - c. High-performance glazing -U-value of 1.2 W/m²K, g-value of 0.25 for south-east-west facing windows, g-value of 0.52 for north facing windows (refer to Appendix B for model images with assigned g-values).
 - d. Insulated hot water pipes to minimize internal heat buildup
 - e. A green roof and enhanced landscaping to improve thermal performance.

- 3.36 These strategies collectively ensure the development meets current and future overheating standards while maintaining occupant comfort and safety.

4.0 DISCLAIMER

- 4.1 Create Consulting Engineers Ltd disclaims any responsibility to the Client, Archanaeum Ltd and others in respect of any matters outside the scope of this report.
- 4.2 This modelling activity and report has been written based on a number of assumptions which are detailed in the main body of the report and the associated appendices. This data is assumed to be correct at the time of writing and every effort has been made to ensure this is the case. If, however, any of this data is found to be incorrect, the results and recommendations contained therein may no longer hold true.
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APPENDICES

APPENDIX A

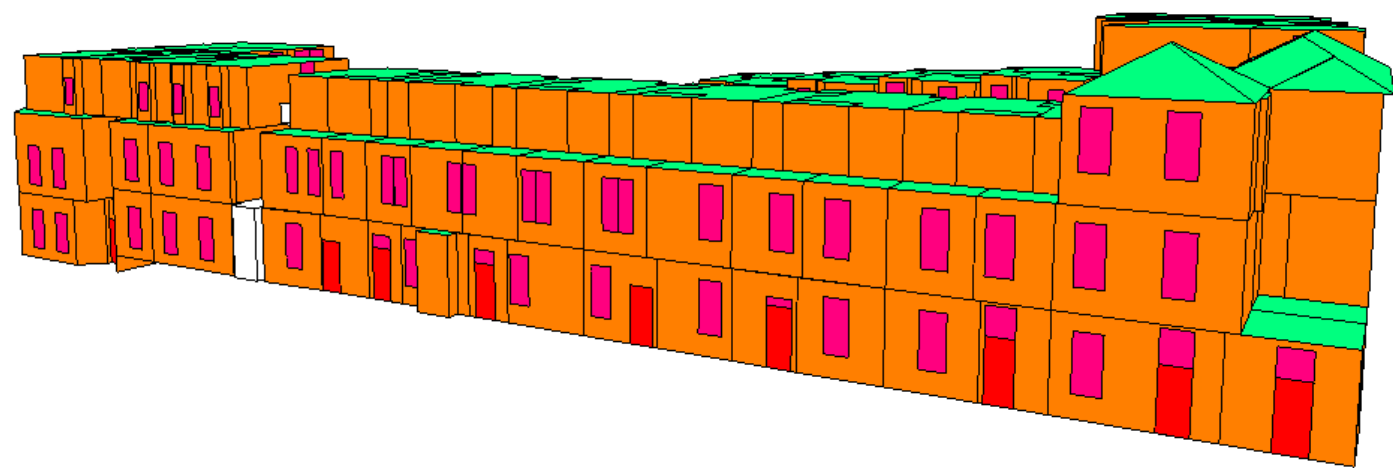


Ventilation			
Infiltration rate			
#	Space Type/Name:	assumed	
1	New build	0.15	ach

Auxiliary Ventilation			
assumed			
Rate		Variation profile	Space
20	l/s	on continuously	Kitchen Living Dining
10	l/s	on continuously	Bedrooms
50	l/s	on continuously	Bedrooms with Extract fan

APPENDIX B

Append B- Windows G-values (elevation)
Hornsey Police Station



Legend	
	South-east-west facing windows with Low g-value of 0.25
	North facing windows with g-value of 0.52

Figure B1: Southeast elevation

Append B- Windows G-values (elevation)
Hornsey Police Station

Legend	
	South, East & West facing windows with Low g-value of 0.25
	North facing windows with g-value of 0.52

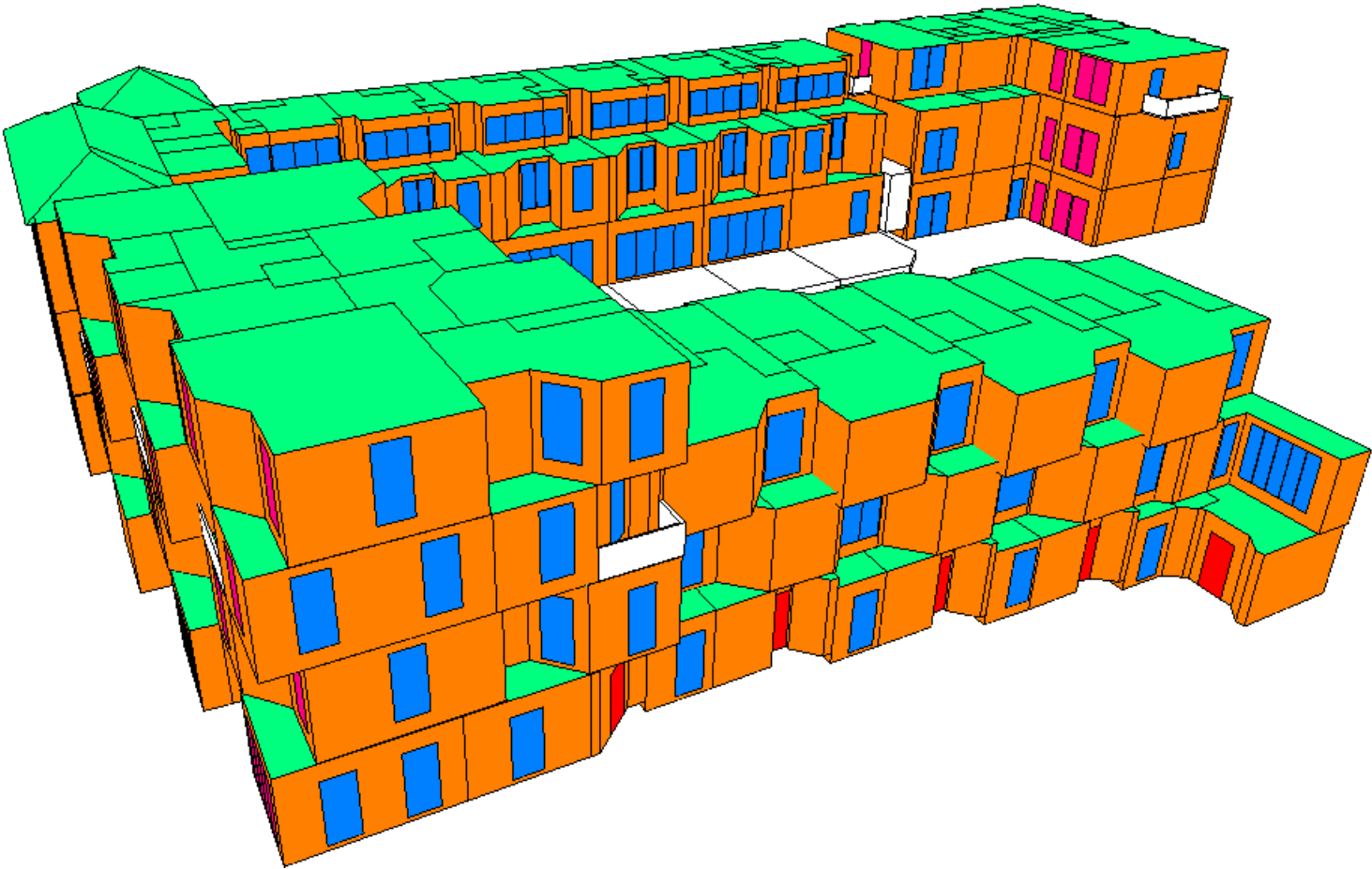
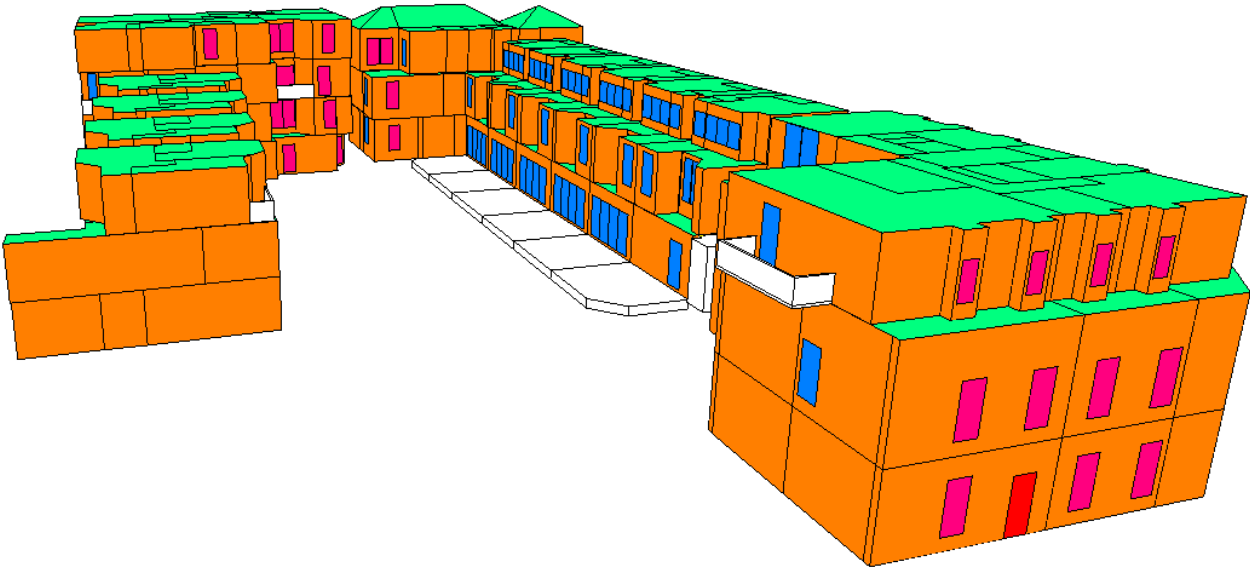


Figure B2: North elevation

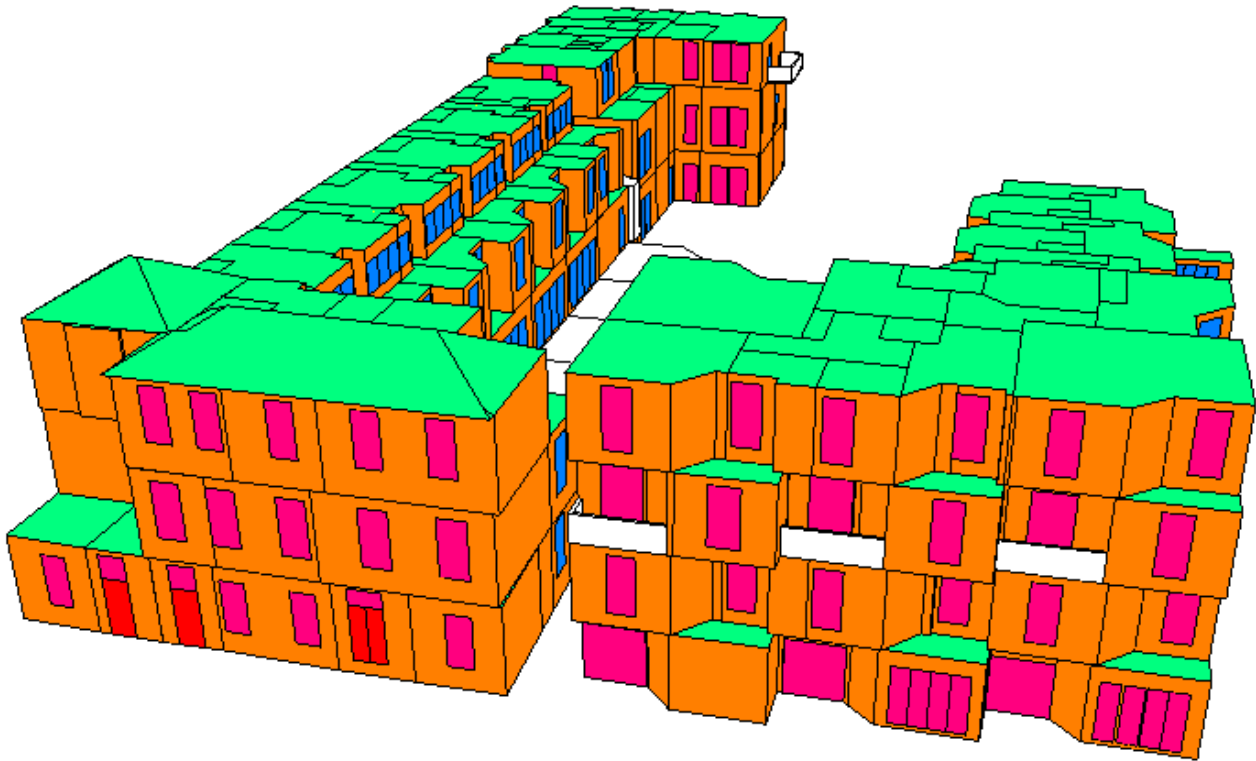
Append B- Windows G-values (elevation)
Hornsey Police Station



Legend	
	South, East & West facing windows with Low g-value of 0.25
	North facing windows with g-value of 0.52

Figure B3: West elevation

Append B- Windows G-values (elevation)
Hornsey Police Station



Legend	
	South, East & West facing windows with Low g-value of 0.25
	North facing windows with g-value of 0.52

Figure B4: East elevation

APPENDIX C



Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station

Hornsey Police Station

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Building details

Project name: Hornsey Police Station	Date: 21-08-2024 13:16:46
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation:
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY1_2020High50.epw	
Results file: DSY1_2020H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy:	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	NO
Designer's signature:	

Hornsey Police Station

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Fail	-
Block C1- bed	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Fail	-
Block C3- 1B2P KLD	-	-	Fail	-
Block A AH1- Study	-	-	Fail	-
Block A AH2- Study	-	-	Fail	-
Block A AH3- Study	-	-	Fail	-
Block A AH4- Study	-	-	Fail	-
Block A AH5- Study	-	-	Fail	-
Block A AH6- Study	-	-	Fail	-
Block C4 - Bed	-	-	Fail	-
Block C5-bed	-	-	Fail	-
Block C6- 1B2P KLD	-	-	Fail	-
Block C4 - 2B3P KLD	-	-	Fail	-
CORRIDOR-BLOCK B	-	-	-	Yes
Block B2- bed	-	-	Fail	-
Block B2- 2B4P KLD	-	-	Fail	-
Block B3-Sbed	-	-	Fail	-
Block B2-2B4P KLD	-	-	Fail	-
Block B MH1- Bed	-	-	Fail	-
Block B MH2- Bed	-	-	Fail	-
Block B MH3-bed	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
Block B3-BED	-	-	Fail	-
Block C7- 1B2P KLD	-	-	Fail	-
Block C8- Sbed	-	-	Fail	-
Block C8- bed	-	-	Fail	-
Block C8- bed	-	-	Fail	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Fail	-
Block B4- bed	-	-	Fail	-
Block B6- 2B4P KLD	-	-	Fail	-
Block B7- 2B3P KLD	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Fail	-
Block A4-bed	-	-	Fail	-
Block B3-2B3P KLD	-	-	Fail	-
Block C3- bed	-	-	Fail	-
Block C1- Sbed	-	-	Fail	-
Block C2- 1B2P KLD	-	-	Fail	-
Block C4 - Sbed	-	-	Fail	-
Block C6- bed	-	-	Fail	-
Block C5-1B2P KLD	-	-	Fail	-
Block B5- bed	-	-	Fail	-
Block A AH2- 4B7P KLD	-	-	Fail	-
Block A AH3- 4B7P KLD	-	-	Fail	-
Block A2- 1B2P LD	-	-	Fail	-
Block A AH6- 4B7P KLD	-	-	Fail	-
Block A AH4- 4B7P KLD	-	-	Fail	-
Block A AH5- 4B7P KLD	-	-	Fail	-
Block A1- bed	-	-	Fail	-
Block A2- Kitchen	-	-	Fail	-
Block A1- 2B4P KLD	-	-	Fail	-
Block A AH1- bed	-	-	Fail	-
Block A AH1- bed	-	-	Fail	-
Block A AH2- bed	-	-	Fail	-
Block A AH2- bed	-	-	Fail	-
Block A AH3-Bed	-	-	Fail	-
Block A AH3-Bed	-	-	Fail	-
Block A AH4- bed	-	-	Fail	-
Block A AH4- bed	-	-	Fail	-
Block A AH5- bed	-	-	Fail	-
Block A AH5-bed	-	-	Fail	-
Block A AH6- bed	-	-	Fail	-
Block A AH6- bed	-	-	Fail	-
Block A2-bed	-	-	Fail	-
Block A3-Bed	-	-	Fail	-
Block A3-2B4P KLD	-	-	Fail	-
Block A3-Bed	-	-	Fail	-
Block A AH6- BED	-	-	Fail	-
Block A AH5- bed	-	-	Fail	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Fail	-
Block A AH3- BED	-	-	Fail	-
Block A AH4-BED	-	-	Fail	-
Block A AH1- BED	-	-	Fail	-
Block A4-bed	-	-	Fail	-
Block A4-Study	-	-	Fail	-
Block B7- bed	-	-	Fail	-
Block B7- Sbed	-	-	Fail	-
Block B6- bath	-	-	Fail	-
Block B6- bed	-	-	Fail	-
Block B6- bed	-	-	Fail	-
BLOCK B MH4- 4B8P KLD	-	-	Fail	-
Block B MH3- 4B8P KLD	-	-	Fail	-
Block B MH2- 4B8P KLD	-	-	Fail	-
Block B MH1- 4B8P KLD	-	-	Fail	-
Block B2- bed	-	-	Fail	-
Block B MH2- Bed	-	-	Fail	-
Block B MH3-bed	-	-	Fail	-
BLOCK B MH4- Study	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
Block B MH1-bed	-	-	Fail	-
Block B MH2-bed	-	-	Fail	-
Block B5- sbed	-	-	Fail	-
Block B5- 2B3P KLD	-	-	Fail	-
Block C8- 3B5P KLD	-	-	Fail	-
Block B2-bed	-	-	Fail	-
Block B4-Bed	-	-	Fail	-
Block A1- bed	-	-	Fail	-
Block A AH1- 4B7P KLD	-	-	Fail	-
Block B MH1-bed	-	-	Fail	-
BLOCK B MH1- Study	-	-	Fail	-
Block B2-bed	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
BLOCK B MH3- Study	-	-	Fail	-
Block B MH3-Bed	-	-	Fail	-
BLOCK B MH2- Study	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	Yes
Block C7- Bed	-	-	Fail	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

Hornsey Police Station

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	2300	48.5	Fail
Block C1- bed	3235	36.9	Fail
Block C2- bed	1255	14.3	Fail
Block C3- 1B2P KLD	197	4.2	Fail
Block A AH1- Study	5525	63.1	Fail
Block A AH2- Study	6256	71.4	Fail
Block A AH3- Study	6304	72.0	Fail
Block A AH4- Study	5809	66.3	Fail
Block A AH5- Study	6370	72.7	Fail
Block A AH6- Study	6060	69.2	Fail
Block C4 - Bed	3522	40.2	Fail
Block C5-bed	1376	15.7	Fail
Block C6- 1B2P KLD	354	7.5	Fail
Block C4 - 2B3P KLD	1991	42.0	Fail
Block B2- bed	5080	58.0	Fail
Block B2- 2B4P KLD	2663	56.1	Fail
Block B3-Sbed	4714	53.8	Fail
Block B2-2B4P KLD	3005	63.3	Fail
Block B MH1- Bed	4870	55.6	Fail
Block B MH2- Bed	5073	57.9	Fail
Block B MH3-bed	5077	58.0	Fail
BLOCK B MH4- bed	4459	50.9	Fail
Block B3-BED	4477	51.1	Fail
Block C7- 1B2P KLD	661	13.9	Fail
Block C8- Sbed	4418	50.4	Fail
Block C8- bed	4348	49.6	Fail
Block C8- bed	4570	52.2	Fail
Block B4- 2B4P KLD	2927	61.7	Fail
Block B4- bed	5822	66.5	Fail
Block B6- 2B4P KLD	2307	48.6	Fail
Block B7- 2B3P KLD	2453	51.7	Fail
Block A4-3B5P KLD	2136	45.0	Fail
Block A4-bed	4410	50.3	Fail
Block B3-2B3P KLD	2388	50.3	Fail
Block C3- bed	1793	20.5	Fail
Block C1- Sbed	4049	46.2	Fail
Block C2- 1B2P KLD	194	4.1	Fail

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	3563	40.7	Fail
Block C6- bed	2165	24.7	Fail
Block C5-1B2P KLD	250	5.3	Fail
Block B5- bed	4560	52.1	Fail
Block A AH2- 4B7P KLD	2421	51.0	Fail
Block A AH3- 4B7P KLD	2602	54.8	Fail
Block A2- 1B2P LD	1839	38.8	Fail
Block A AH6- 4B7P KLD	2649	55.8	Fail
Block A AH4- 4B7P KLD	2534	53.4	Fail
Block A AH5- 4B7P KLD	2758	58.1	Fail
Block A1- bed	4367	49.9	Fail
Block A2- Kitchen	2129	44.9	Fail
Block A1- 2B4P KLD	2362	49.8	Fail
Block A AH1- bed	4960	56.6	Fail
Block A AH1- bed	4998	57.1	Fail
Block A AH2- bed	6210	70.9	Fail
Block A AH2- bed	6315	72.1	Fail
Block A AH3-Bed	6143	70.1	Fail
Block A AH3-Bed	6081	69.4	Fail
Block A AH4- bed	5750	65.6	Fail
Block A AH4- bed	5716	65.3	Fail
Block A AH5- bed	6290	71.8	Fail
Block A AH5-bed	6674	76.2	Fail
Block A AH6- bed	6275	71.6	Fail
Block A AH6- bed	6613	75.5	Fail
Block A2-bed	4298	49.1	Fail
Block A3-Bed	4367	49.9	Fail
Block A3-2B4P KLD	2443	51.5	Fail
Block A3-Bed	4510	51.5	Fail
Block A AH6- BED	5311	60.6	Fail
Block A AH5- bed	4927	56.2	Fail
Block A AH2- BED	5144	58.7	Fail
Block A AH3- BED	4914	56.1	Fail
Block A AH4-BED	4685	53.5	Fail
Block A AH1- BED	4442	50.7	Fail
Block A4-bed	3780	43.2	Fail
Block A4-Study	4014	45.8	Fail
Block B7- bed	4813	54.9	Fail
Block B7- Sbed	4560	52.1	Fail
Block B6- bath	8760	100.0	Fail
Block B6- bed	4435	50.6	Fail
Block B6- bed	4505	51.4	Fail

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	2342	49.4	Fail
Block B MH3- 4B8P KLD	2609	55.0	Fail
Block B MH2- 4B8P KLD	2607	54.9	Fail
Block B MH1- 4B8P KLD	2466	52.0	Fail
Block B2- bed	4641	53.0	Fail
Block B MH2- Bed	5536	63.2	Fail
Block B MH3-bed	5542	63.3	Fail
BLOCK B MH4- Study	4457	50.9	Fail
BLOCK B MH4- bed	4576	52.2	Fail
Block B MH1-bed	4678	53.4	Fail
Block B MH2-bed	4795	54.7	Fail
Block B5- sbed	4512	51.5	Fail
Block B5- 2B3P KLD	2444	51.5	Fail
Block C8- 3B5P KLD	2295	48.4	Fail
Block B2-bed	5968	68.1	Fail
Block B4-Bed	5566	63.5	Fail
Block A1- bed	4289	49.0	Fail
Block A AH1- 4B7P KLD	2400	50.6	Fail
Block B MH1-bed	5320	60.7	Fail
BLOCK B MH1- Study	4535	51.8	Fail
Block B2-bed	5083	58.0	Fail
BLOCK B MH4- bed	4522	51.6	Fail
BLOCK B MH3- Study	4684	53.5	Fail
Block B MH3-Bed	4896	55.9	Fail
BLOCK B MH2- Study	4623	52.8	Fail
Block C7- Bed	2334	26.6	Fail

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	246	2.8	No
CORRIDOR-BLOCK B	2543	29.0	Yes
CORRIDOR- BLOCK C	189	2.2	No
CORRIDOR- BLOCK C	1387	15.8	Yes

Hornsey Police Station

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH6- Study	7.33	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

Hornsey Police Station

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	14.04	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C3- bed	17.42	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living	Living Occupancy	Living Equipment	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A3-Bed	17.25	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bath	2.64	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	16.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH1-bed	15.25	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-bed	16.46	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0
Block C1- bed	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0
Block C3- 1B2P KLD	4.0	0
Block A AH1- Study	0.15	0
Block A AH2- Study	0.15	0
Block A AH3- Study	0.15	0
Block A AH4- Study	0.15	0
Block A AH5- Study	0.15	0
Block A AH6- Study	0.15	0
Block C4 - Bed	0.15	0
Block C5-bed	0.15	0
Block C6- 1B2P KLD	4.0	0
Block C4 - 2B3P KLD	0.15	0
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	0
Block B2- 2B4P KLD	0.15	0
Block B3-Sbed	0.15	0
Block B2-2B4P KLD	0.15	0
Block B MH1- Bed	0.15	0
Block B MH2- Bed	0.15	0
Block B MH3-bed	0.15	0
BLOCK B MH4- bed	0.15	0
Block B3-BED	0.15	0
Block C7- 1B2P KLD	4.0	0
Block C8- Sbed	0.15	0
Block C8- bed	0.15	0
Block C8- bed	0.15	0
Block B4- 2B4P KLD	0.15	0
Block B4- bed	0.15	0
Block B6- 2B4P KLD	0.15	0
Block B7- 2B3P KLD	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0
Block A4-bed	0.15	0
Block B3-2B3P KLD	0.15	0
Block C3- bed	0.15	0
Block C1- Sbed	0.15	0
Block C2- 1B2P KLD	4.0	0

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0
Block C6- bed	0.15	0
Block C5-1B2P KLD	4.0	0
Block B5- bed	0.15	0
Block A AH2- 4B7P KLD	0.15	0
Block A AH3- 4B7P KLD	0.15	0
Block A2- 1B2P LD	0.15	0
Block A AH6- 4B7P KLD	0.15	0
Block A AH4- 4B7P KLD	0.15	0
Block A AH5- 4B7P KLD	0.15	0
Block A1- bed	0.15	0
Block A2- Kitchen	0.15	0
Block A1- 2B4P KLD	0.15	0
Block A AH1- bed	0.15	0
Block A AH1- bed	0.15	0
Block A AH2- bed	0.15	0
Block A AH2- bed	0.15	0
Block A AH3-Bed	0.15	0
Block A AH3-Bed	0.15	0
Block A AH4- bed	0.15	0
Block A AH4- bed	0.15	0
Block A AH5- bed	0.15	0
Block A AH5-bed	0.15	0
Block A AH6- bed	0.15	0
Block A AH6- bed	0.15	0
Block A2-bed	0.15	0
Block A3-Bed	0.15	0
Block A3-2B4P KLD	0.15	0
Block A3-Bed	0.15	0
Block A AH6- BED	0.15	0
Block A AH5- bed	0.15	0
Block A AH2- BED	0.15	0
Block A AH3- BED	0.15	0
Block A AH4-BED	0.15	0
Block A AH1- BED	0.15	0
Block A4-bed	0.15	0
Block A4-Study	0.15	0
Block B7- bed	0.15	0
Block B7- Sbed	0.15	0
Block B6- bath	0.15	0
Block B6- bed	0.15	0
Block B6- bed	0.15	0

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0
Block B MH3- 4B8P KLD	0.15	0
Block B MH2- 4B8P KLD	0.15	0
Block B MH1- 4B8P KLD	0.15	0
Block B2- bed	0.15	0
Block B MH2- Bed	0.15	0
Block B MH3-bed	0.15	0
BLOCK B MH4- Study	0.15	0
BLOCK B MH4- bed	0.15	0
Block B MH1-bed	0.15	0
Block B MH2-bed	0.15	0
Block B5- sbed	0.15	0
Block B5- 2B3P KLD	0.15	0
Block C8- 3B5P KLD	0.15	0
Block B2-bed	0.15	0
Block B4-Bed	0.15	0
Block A1- bed	0.15	0
Block A AH1- 4B7P KLD	0.15	0
Block B MH1-bed	0.15	0
BLOCK B MH1- Study	0.15	0
Block B2-bed	0.15	0
BLOCK B MH4- bed	0.15	0
BLOCK B MH3- Study	0.15	0
Block B MH3-Bed	0.15	0
BLOCK B MH2- Study	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	0

APPENDIX D



Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station

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Building details

Project name: Hornsey Police Station	Date: 21-08-2024 13:04:14
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation:
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY1_2020High50.epw	
Results file: DSY1_2020H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	NO
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Fail	-
Block C1- bed	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Fail	-
Block C3- 1B2P KLD	-	-	Fail	-
Block A AH1- Study	-	-	Fail	-
Block A AH2- Study	-	-	Fail	-
Block A AH3- Study	-	-	Fail	-
Block A AH4- Study	-	-	Fail	-
Block A AH5- Study	-	-	Fail	-
Block A AH6- Study	-	-	Fail	-
Block C4 - Bed	-	-	Fail	-
Block C5-bed	-	-	Fail	-
Block C6- 1B2P KLD	-	-	Fail	-
Block C4 - 2B3P KLD	-	-	Fail	-
CORRIDOR-BLOCK B	-	-	-	Yes
Block B2- bed	-	-	Fail	-
Block B2- 2B4P KLD	-	-	Fail	-
Block B3-Sbed	-	-	Fail	-
Block B2-2B4P KLD	-	-	Fail	-
Block B MH1- Bed	-	-	Fail	-
Block B MH2- Bed	-	-	Fail	-
Block B MH3-bed	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
Block B3-BED	-	-	Fail	-
Block C7- 1B2P KLD	-	-	Fail	-
Block C8- Sbed	-	-	Fail	-
Block C8- bed	-	-	Fail	-
Block C8- bed	-	-	Fail	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Fail	-
Block B4- bed	-	-	Fail	-
Block B6- 2B4P KLD	-	-	Fail	-
Block B7- 2B3P KLD	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Fail	-
Block A4-bed	-	-	Fail	-
Block B3-2B3P KLD	-	-	Fail	-
Block C3- bed	-	-	Fail	-
Block C1- Sbed	-	-	Fail	-
Block C2- 1B2P KLD	-	-	Fail	-
Block C4 - Sbed	-	-	Fail	-
Block C6- bed	-	-	Fail	-
Block C5-1B2P KLD	-	-	Fail	-
Block B5- bed	-	-	Fail	-
Block A AH2- 4B7P KLD	-	-	Fail	-
Block A AH3- 4B7P KLD	-	-	Fail	-
Block A2- 1B2P LD	-	-	Fail	-
Block A AH6- 4B7P KLD	-	-	Fail	-
Block A AH4- 4B7P KLD	-	-	Fail	-
Block A AH5- 4B7P KLD	-	-	Fail	-
Block A1- bed	-	-	Fail	-
Block A2- Kitchen	-	-	Fail	-
Block A1- 2B4P KLD	-	-	Fail	-
Block A AH1- bed	-	-	Fail	-
Block A AH1- bed	-	-	Fail	-
Block A AH2- bed	-	-	Fail	-
Block A AH2- bed	-	-	Fail	-
Block A AH3-Bed	-	-	Fail	-
Block A AH3-Bed	-	-	Fail	-
Block A AH4- bed	-	-	Fail	-
Block A AH4- bed	-	-	Fail	-
Block A AH5- bed	-	-	Fail	-
Block A AH5-bed	-	-	Fail	-
Block A AH6- bed	-	-	Fail	-
Block A AH6- bed	-	-	Fail	-
Block A2-bed	-	-	Fail	-
Block A3-Bed	-	-	Fail	-
Block A3-2B4P KLD	-	-	Fail	-
Block A3-Bed	-	-	Fail	-
Block A AH6- BED	-	-	Fail	-
Block A AH5- bed	-	-	Fail	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Fail	-
Block A AH3- BED	-	-	Fail	-
Block A AH4-BED	-	-	Fail	-
Block A AH1- BED	-	-	Fail	-
Block A4-bed	-	-	Fail	-
Block A4-Study	-	-	Fail	-
Block B7- bed	-	-	Fail	-
Block B7- Sbed	-	-	Fail	-
Block B6- bath	-	-	Fail	-
Block B6- bed	-	-	Fail	-
Block B6- bed	-	-	Fail	-
BLOCK B MH4- 4B8P KLD	-	-	Fail	-
Block B MH3- 4B8P KLD	-	-	Fail	-
Block B MH2- 4B8P KLD	-	-	Fail	-
Block B MH1- 4B8P KLD	-	-	Fail	-
Block B2- bed	-	-	Fail	-
Block B MH2- Bed	-	-	Fail	-
Block B MH3-bed	-	-	Fail	-
BLOCK B MH4- Study	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
Block B MH1-bed	-	-	Fail	-
Block B MH2-bed	-	-	Fail	-
Block B5- sbed	-	-	Fail	-
Block B5- 2B3P KLD	-	-	Fail	-
Block C8- 3B5P KLD	-	-	Fail	-
Block B2-bed	-	-	Fail	-
Block B4-Bed	-	-	Fail	-
Block A1- bed	-	-	Fail	-
Block A AH1- 4B7P KLD	-	-	Fail	-
Block B MH1-bed	-	-	Fail	-
BLOCK B MH1- Study	-	-	Fail	-
Block B2-bed	-	-	Fail	-
BLOCK B MH4- bed	-	-	Fail	-
BLOCK B MH3- Study	-	-	Fail	-
Block B MH3-Bed	-	-	Fail	-
BLOCK B MH2- Study	-	-	Fail	-
CORRIDOR- BLOCK C	-	-	-	Yes
Block C7- Bed	-	-	Fail	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	2300	48.5	Fail
Block C1- bed	3235	36.9	Fail
Block C2- bed	1251	14.3	Fail
Block C3- 1B2P KLD	196	4.1	Fail
Block A AH1- Study	5525	63.1	Fail
Block A AH2- Study	6256	71.4	Fail
Block A AH3- Study	6304	72.0	Fail
Block A AH4- Study	5809	66.3	Fail
Block A AH5- Study	6370	72.7	Fail
Block A AH6- Study	6060	69.2	Fail
Block C4 - Bed	3522	40.2	Fail
Block C5-bed	1343	15.3	Fail
Block C6- 1B2P KLD	338	7.1	Fail
Block C4 - 2B3P KLD	1989	41.9	Fail
Block B2- bed	5064	57.8	Fail
Block B2- 2B4P KLD	2656	56.0	Fail
Block B3-Sbed	4709	53.8	Fail
Block B2-2B4P KLD	3000	63.2	Fail
Block B MH1- Bed	4685	53.5	Fail
Block B MH2- Bed	4702	53.7	Fail
Block B MH3-bed	4673	53.3	Fail
BLOCK B MH4- bed	4377	50.0	Fail
Block B3-BED	4475	51.1	Fail
Block C7- 1B2P KLD	473	10.0	Fail
Block C8- Sbed	4209	48.0	Fail
Block C8- bed	4090	46.7	Fail
Block C8- bed	4355	49.7	Fail
Block B4- 2B4P KLD	2916	61.5	Fail
Block B4- bed	5812	66.3	Fail
Block B6- 2B4P KLD	2280	48.1	Fail
Block B7- 2B3P KLD	2396	50.5	Fail
Block A4-3B5P KLD	2136	45.0	Fail
Block A4-bed	4410	50.3	Fail
Block B3-2B3P KLD	2386	50.3	Fail
Block C3- bed	1783	20.4	Fail
Block C1- Sbed	4047	46.2	Fail
Block C2- 1B2P KLD	194	4.1	Fail

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	3558	40.6	Fail
Block C6- bed	2072	23.7	Fail
Block C5-1B2P KLD	240	5.1	Fail
Block B5- bed	4554	52.0	Fail
Block A AH2- 4B7P KLD	2421	51.0	Fail
Block A AH3- 4B7P KLD	2602	54.8	Fail
Block A2- 1B2P LD	1839	38.8	Fail
Block A AH6- 4B7P KLD	2649	55.8	Fail
Block A AH4- 4B7P KLD	2534	53.4	Fail
Block A AH5- 4B7P KLD	2758	58.1	Fail
Block A1- bed	4367	49.9	Fail
Block A2- Kitchen	2129	44.9	Fail
Block A1- 2B4P KLD	2362	49.8	Fail
Block A AH1- bed	4960	56.6	Fail
Block A AH1- bed	4998	57.1	Fail
Block A AH2- bed	6210	70.9	Fail
Block A AH2- bed	6315	72.1	Fail
Block A AH3-Bed	6143	70.1	Fail
Block A AH3-Bed	6081	69.4	Fail
Block A AH4- bed	5750	65.6	Fail
Block A AH4- bed	5716	65.3	Fail
Block A AH5- bed	6290	71.8	Fail
Block A AH5-bed	6674	76.2	Fail
Block A AH6- bed	6275	71.6	Fail
Block A AH6- bed	6613	75.5	Fail
Block A2-bed	4298	49.1	Fail
Block A3-Bed	4367	49.9	Fail
Block A3-2B4P KLD	2443	51.5	Fail
Block A3-Bed	4510	51.5	Fail
Block A AH6- BED	5311	60.6	Fail
Block A AH5- bed	4927	56.2	Fail
Block A AH2- BED	5144	58.7	Fail
Block A AH3- BED	4914	56.1	Fail
Block A AH4-BED	4685	53.5	Fail
Block A AH1- BED	4442	50.7	Fail
Block A4-bed	3780	43.2	Fail
Block A4-Study	4014	45.8	Fail
Block B7- bed	4795	54.7	Fail
Block B7- Sbed	4546	51.9	Fail
Block B6- bath	8760	100.0	Fail
Block B6- bed	4413	50.4	Fail
Block B6- bed	4455	50.9	Fail

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	1807	38.1	Fail
Block B MH3- 4B8P KLD	2252	47.5	Fail
Block B MH2- 4B8P KLD	2287	48.2	Fail
Block B MH1- 4B8P KLD	2212	46.6	Fail
Block B2- bed	4636	52.9	Fail
Block B MH2- Bed	5055	57.7	Fail
Block B MH3-bed	5065	57.8	Fail
BLOCK B MH4- Study	4413	50.4	Fail
BLOCK B MH4- bed	4434	50.6	Fail
Block B MH1-bed	4484	51.2	Fail
Block B MH2-bed	4492	51.3	Fail
Block B5- sbed	4505	51.4	Fail
Block B5- 2B3P KLD	2442	51.5	Fail
Block C8- 3B5P KLD	2065	43.5	Fail
Block B2-bed	5952	67.9	Fail
Block B4-Bed	5545	63.3	Fail
Block A1- bed	4289	49.0	Fail
Block A AH1- 4B7P KLD	2400	50.6	Fail
Block B MH1-bed	4958	56.6	Fail
BLOCK B MH1- Study	4469	51.0	Fail
Block B2-bed	5057	57.7	Fail
BLOCK B MH4- bed	4455	50.9	Fail
BLOCK B MH3- Study	4520	51.6	Fail
Block B MH3-Bed	4534	51.8	Fail
BLOCK B MH2- Study	4489	51.2	Fail
Block C7- Bed	2251	25.7	Fail

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	241	2.8	No
CORRIDOR-BLOCK B	2388	27.3	Yes
CORRIDOR- BLOCK C	181	2.1	No
CORRIDOR- BLOCK C	1178	13.4	Yes

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH6- Study	7.33	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	14.04	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C3- bed	17.42	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living	Living Occupancy	Living Equipment	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A3-Bed	17.25	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bath	2.64	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	16.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH1-bed	15.25	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-bed	16.46	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0
Block C1- bed	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0
Block C3- 1B2P KLD	4.0	0
Block A AH1- Study	0.15	0
Block A AH2- Study	0.15	0
Block A AH3- Study	0.15	0
Block A AH4- Study	0.15	0
Block A AH5- Study	0.15	0
Block A AH6- Study	0.15	0
Block C4 - Bed	0.15	0
Block C5-bed	0.15	0
Block C6- 1B2P KLD	4.0	0
Block C4 - 2B3P KLD	0.15	0
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	0
Block B2- 2B4P KLD	0.15	0
Block B3-Sbed	0.15	0
Block B2-2B4P KLD	0.15	0
Block B MH1- Bed	0.15	0
Block B MH2- Bed	0.15	0
Block B MH3-bed	0.15	0
BLOCK B MH4- bed	0.15	0
Block B3-BED	0.15	0
Block C7- 1B2P KLD	4.0	0
Block C8- Sbed	0.15	0
Block C8- bed	0.15	0
Block C8- bed	0.15	0
Block B4- 2B4P KLD	0.15	0
Block B4- bed	0.15	0
Block B6- 2B4P KLD	0.15	0
Block B7- 2B3P KLD	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0
Block A4-bed	0.15	0
Block B3-2B3P KLD	0.15	0
Block C3- bed	0.15	0
Block C1- Sbed	0.15	0
Block C2- 1B2P KLD	4.0	0

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0
Block C6- bed	0.15	0
Block C5-1B2P KLD	4.0	0
Block B5- bed	0.15	0
Block A AH2- 4B7P KLD	0.15	0
Block A AH3- 4B7P KLD	0.15	0
Block A2- 1B2P LD	0.15	0
Block A AH6- 4B7P KLD	0.15	0
Block A AH4- 4B7P KLD	0.15	0
Block A AH5- 4B7P KLD	0.15	0
Block A1- bed	0.15	0
Block A2- Kitchen	0.15	0
Block A1- 2B4P KLD	0.15	0
Block A AH1- bed	0.15	0
Block A AH1- bed	0.15	0
Block A AH2- bed	0.15	0
Block A AH2- bed	0.15	0
Block A AH3-Bed	0.15	0
Block A AH3-Bed	0.15	0
Block A AH4- bed	0.15	0
Block A AH4- bed	0.15	0
Block A AH5- bed	0.15	0
Block A AH5-bed	0.15	0
Block A AH6- bed	0.15	0
Block A AH6- bed	0.15	0
Block A2-bed	0.15	0
Block A3-Bed	0.15	0
Block A3-2B4P KLD	0.15	0
Block A3-Bed	0.15	0
Block A AH6- BED	0.15	0
Block A AH5- bed	0.15	0
Block A AH2- BED	0.15	0
Block A AH3- BED	0.15	0
Block A AH4-BED	0.15	0
Block A AH1- BED	0.15	0
Block A4-bed	0.15	0
Block A4-Study	0.15	0
Block B7- bed	0.15	0
Block B7- Sbed	0.15	0
Block B6- bath	0.15	0
Block B6- bed	0.15	0
Block B6- bed	0.15	0

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0
Block B MH3- 4B8P KLD	0.15	0
Block B MH2- 4B8P KLD	0.15	0
Block B MH1- 4B8P KLD	0.15	0
Block B2- bed	0.15	0
Block B MH2- Bed	0.15	0
Block B MH3-bed	0.15	0
BLOCK B MH4- Study	0.15	0
BLOCK B MH4- bed	0.15	0
Block B MH1-bed	0.15	0
Block B MH2-bed	0.15	0
Block B5- sbed	0.15	0
Block B5- 2B3P KLD	0.15	0
Block C8- 3B5P KLD	0.15	0
Block B2-bed	0.15	0
Block B4-Bed	0.15	0
Block A1- bed	0.15	0
Block A AH1- 4B7P KLD	0.15	0
Block B MH1-bed	0.15	0
BLOCK B MH1- Study	0.15	0
Block B2-bed	0.15	0
BLOCK B MH4- bed	0.15	0
BLOCK B MH3- Study	0.15	0
Block B MH3-Bed	0.15	0
BLOCK B MH2- Study	0.15	0
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	0

APPENDIX E

Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station, London

Hornsey Police Station, London

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Building details

Project name: Hornsey Police Station, London	Date: 21-08-2024 11:50:39
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation: Create Consulting Engineer Ltd
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY1_2020High50.epw	
Results file: DSY1_2020H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds and MVHR with Extract fan	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Pass	-
Block C1- bed	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Pass	-
Block C3- 1B2P KLD	-	-	Pass	-
Block A AH1- Study	-	-	Pass	-
Block A AH2- Study	-	-	Pass	-
Block A AH3- Study	-	-	Pass	-
Block A AH4- Study	-	-	Pass	-
Block A AH5- Study	-	-	Pass	-
Block A AH6- Study	-	-	Pass	-
Block C4 - Bed	-	-	Pass	-
Block C5-bed	-	-	Pass	-
Block C6- 1B2P KLD	-	-	Pass	-
Block C4 - 2B3P KLD	-	-	Pass	-
CORRIDOR-BLOCK B	-	-	-	No
Block B2- bed	-	-	Pass	-
Block B2- 2B4P KLD	-	-	Pass	-
Block B3-Sbed	-	-	Pass	-
Block B2-2B4P KLD	-	-	Pass	-
Block B MH1- Bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B3-BED	-	-	Pass	-
Block C7- 1B2P KLD	-	-	Pass	-
Block C8- Sbed	-	-	Pass	-
Block C8- bed	-	-	Pass	-
Block C8- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Pass	-
Block B4- bed	-	-	Pass	-
Block B6- 2B4P KLD	-	-	Pass	-
Block B7- 2B3P KLD	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block B3-2B3P KLD	-	-	Pass	-
Block C3- bed	-	-	Pass	-
Block C1- Sbed	-	-	Pass	-
Block C2- 1B2P KLD	-	-	Pass	-
Block C4 - Sbed	-	-	Pass	-
Block C6- bed	-	-	Pass	-
Block C5-1B2P KLD	-	-	Pass	-
Block B5- bed	-	-	Pass	-
Block A AH2- 4B7P KLD	-	-	Pass	-
Block A AH3- 4B7P KLD	-	-	Pass	-
Block A2- 1B2P LD	-	-	Pass	-
Block A AH6- 4B7P KLD	-	-	Pass	-
Block A AH4- 4B7P KLD	-	-	Pass	-
Block A AH5- 4B7P KLD	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A2- Kitchen	-	-	Pass	-
Block A1- 2B4P KLD	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-
Block A AH5-bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A2-bed	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A3-2B4P KLD	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A AH6- BED	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Pass	-
Block A AH3- BED	-	-	Pass	-
Block A AH4-BED	-	-	Pass	-
Block A AH1- BED	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block A4-Study	-	-	Pass	-
Block B7- bed	-	-	Pass	-
Block B7- Sbed	-	-	Pass	-
Block B6- bath	-	-	Pass	-
Block B6- bed	-	-	Pass	-
Block B6- bed	-	-	Pass	-
BLOCK B MH4- 4B8P KLD	-	-	Pass	-
Block B MH3- 4B8P KLD	-	-	Pass	-
Block B MH2- 4B8P KLD	-	-	Pass	-
Block B MH1- 4B8P KLD	-	-	Pass	-
Block B2- bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- Study	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
Block B MH2-bed	-	-	Pass	-
Block B5- sbed	-	-	Pass	-
Block B5- 2B3P KLD	-	-	Pass	-
Block C8- 3B5P KLD	-	-	Pass	-
Block B2-bed	-	-	Pass	-
Block B4-Bed	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A AH1- 4B7P KLD	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
BLOCK B MH1- Study	-	-	Pass	-
Block B2-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
BLOCK B MH3- Study	-	-	Pass	-
Block B MH3-Bed	-	-	Pass	-
BLOCK B MH2- Study	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C7- Bed	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	0	0.0	Pass
Block C1- bed	0	0.0	Pass
Block C2- bed	0	0.0	Pass
Block C3- 1B2P KLD	0	0.0	Pass
Block A AH1- Study	0	0.0	Pass
Block A AH2- Study	0	0.0	Pass
Block A AH3- Study	0	0.0	Pass
Block A AH4- Study	0	0.0	Pass
Block A AH5- Study	0	0.0	Pass
Block A AH6- Study	0	0.0	Pass
Block C4 - Bed	0	0.0	Pass
Block C5-bed	0	0.0	Pass
Block C6- 1B2P KLD	0	0.0	Pass
Block C4 - 2B3P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B2- 2B4P KLD	0	0.0	Pass
Block B3-Sbed	0	0.0	Pass
Block B2-2B4P KLD	0	0.0	Pass
Block B MH1- Bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B3-BED	0	0.0	Pass
Block C7- 1B2P KLD	0	0.0	Pass
Block C8- Sbed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block B4- 2B4P KLD	0	0.0	Pass
Block B4- bed	0	0.0	Pass
Block B6- 2B4P KLD	0	0.0	Pass
Block B7- 2B3P KLD	0	0.0	Pass
Block A4-3B5P KLD	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block B3-2B3P KLD	0	0.0	Pass
Block C3- bed	0	0.0	Pass
Block C1- Sbed	0	0.0	Pass
Block C2- 1B2P KLD	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	0	0.0	Pass
Block C6- bed	2	0.0	Pass
Block C5-1B2P KLD	0	0.0	Pass
Block B5- bed	0	0.0	Pass
Block A AH2- 4B7P KLD	0	0.0	Pass
Block A AH3- 4B7P KLD	0	0.0	Pass
Block A2- 1B2P LD	0	0.0	Pass
Block A AH6- 4B7P KLD	0	0.0	Pass
Block A AH4- 4B7P KLD	0	0.0	Pass
Block A AH5- 4B7P KLD	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A2- Kitchen	0	0.0	Pass
Block A1- 2B4P KLD	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH5-bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A2-bed	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A3-2B4P KLD	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A AH6- BED	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH2- BED	0	0.0	Pass
Block A AH3- BED	0	0.0	Pass
Block A AH4-BED	0	0.0	Pass
Block A AH1- BED	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block A4-Study	0	0.0	Pass
Block B7- bed	0	0.0	Pass
Block B7- Sbed	0	0.0	Pass
Block B6- bath	0	0.0	Pass
Block B6- bed	0	0.0	Pass
Block B6- bed	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	0	0.0	Pass
Block B MH3- 4B8P KLD	0	0.0	Pass
Block B MH2- 4B8P KLD	0	0.0	Pass
Block B MH1- 4B8P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- Study	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
Block B MH2-bed	0	0.0	Pass
Block B5- sbed	0	0.0	Pass
Block B5- 2B3P KLD	0	0.0	Pass
Block C8- 3B5P KLD	0	0.0	Pass
Block B2-bed	0	0.0	Pass
Block B4-Bed	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A AH1- 4B7P KLD	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
BLOCK B MH1- Study	0	0.0	Pass
Block B2-bed	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
BLOCK B MH3- Study	0	0.0	Pass
Block B MH3-Bed	0	0.0	Pass
BLOCK B MH2- Study	0	0.0	Pass
Block C7- Bed	0	0.0	Pass

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR-BLOCK B	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH6- Study	7.33	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH3-bed	14.04	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C3- bed	17.42	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living- with summer bypass	Living Occupancy	Living Occupancy	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen with Summer bypass	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A3-Bed	17.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B6- bath	2.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bed	16.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH1-bed	15.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2-bed	16.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0.81
Block C1- bed	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0.68
Block C3- 1B2P KLD	0.15	0.5
Block A AH1- Study	0.15	1.39
Block A AH2- Study	0.15	1.55
Block A AH3- Study	0.15	1.49
Block A AH4- Study	0.15	1.33
Block A AH5- Study	0.15	1.44
Block A AH6- Study	0.15	1.59
Block C4 - Bed	0.15	0.54
Block C5-bed	0.15	0.54
Block C6- 1B2P KLD	0.15	0.4
Block C4 - 2B3P KLD	0.15	0.73
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	4.94
Block B2- 2B4P KLD	0.15	0.84
Block B3-Sbed	0.15	1.01
Block B2-2B4P KLD	0.15	0.77
Block B MH1- Bed	0.15	0.89
Block B MH2- Bed	0.15	0.93
Block B MH3-bed	0.15	0.92
BLOCK B MH4- bed	0.15	0.89
Block B3-BED	0.15	3.64
Block C7- 1B2P KLD	0.15	0.57
Block C8- Sbed	0.15	6.39
Block C8- bed	0.15	4.12
Block C8- bed	0.15	1.0
Block B4- 2B4P KLD	0.15	0.76
Block B4- bed	0.15	1.06
Block B6- 2B4P KLD	0.15	0.77
Block B7- 2B3P KLD	0.15	0.79
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0.59
Block A4-bed	0.15	4.77
Block B3-2B3P KLD	0.15	0.79
Block C3- bed	0.15	0.63
Block C1- Sbed	0.15	1.02
Block C2- 1B2P KLD	0.15	0.46

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0.93
Block C6- bed	0.15	0.51
Block C5-1B2P KLD	0.15	0.36
Block B5- bed	0.15	0.84
Block A AH2- 4B7P KLD	0.15	0.52
Block A AH3- 4B7P KLD	0.15	0.52
Block A2- 1B2P LD	0.15	0.99
Block A AH6- 4B7P KLD	0.15	0.54
Block A AH4- 4B7P KLD	0.15	0.49
Block A AH5- 4B7P KLD	0.15	0.51
Block A1- bed	0.15	0.82
Block A2- Kitchen	0.15	1.4
Block A1- 2B4P KLD	0.15	0.62
Block A AH1- bed	0.15	0.69
Block A AH1- bed	0.15	0.69
Block A AH2- bed	0.15	0.77
Block A AH2- bed	0.15	0.87
Block A AH3-Bed	0.15	0.76
Block A AH3-Bed	0.15	0.81
Block A AH4- bed	0.15	0.65
Block A AH4- bed	0.15	0.72
Block A AH5- bed	0.15	0.73
Block A AH5-bed	0.15	0.84
Block A AH6- bed	0.15	0.79
Block A AH6- bed	0.15	0.86
Block A2-bed	0.15	0.58
Block A3-Bed	0.15	0.68
Block A3-2B4P KLD	0.15	0.67
Block A3-Bed	0.15	0.63
Block A AH6- BED	0.15	4.19
Block A AH5- bed	0.15	3.97
Block A AH2- BED	0.15	3.97
Block A AH3- BED	0.15	3.97
Block A AH4-BED	0.15	3.6
Block A AH1- BED	0.15	3.61
Block A4-bed	0.15	0.48
Block A4-Study	0.15	0.87
Block B7- bed	0.15	0.73
Block B7- Sbed	0.15	1.02
Block B6- bath	0.15	4.87
Block B6- bed	0.15	0.79
Block B6- bed	0.15	0.92

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0.6
Block B MH3- 4B8P KLD	0.15	0.65
Block B MH2- 4B8P KLD	0.15	0.65
Block B MH1- 4B8P KLD	0.15	0.61
Block B2- bed	0.15	0.67
Block B MH2- Bed	0.15	0.99
Block B MH3-bed	0.15	0.97
BLOCK B MH4- Study	0.15	0.67
BLOCK B MH4- bed	0.15	0.81
Block B MH1-bed	0.15	0.84
Block B MH2-bed	0.15	0.84
Block B5- sbed	0.15	0.99
Block B5- 2B3P KLD	0.15	0.83
Block C8- 3B5P KLD	0.15	0.65
Block B2-bed	0.15	1.04
Block B4-Bed	0.15	0.86
Block A1- bed	0.15	4.12
Block A AH1- 4B7P KLD	0.15	0.47
Block B MH1-bed	0.15	0.91
BLOCK B MH1- Study	0.15	0.66
Block B2-bed	0.15	0.78
BLOCK B MH4- bed	0.15	0.95
BLOCK B MH3- Study	0.15	0.7
Block B MH3-Bed	0.15	0.8
BLOCK B MH2- Study	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	4.28

APPENDIX F

Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station, London

Hornsey Police Station, London

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Building details

Project name: Hornsey Police Station, London	Date: 21-08-2024 12:10:13
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation: Create Consulting Engineer Ltd
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY2_2020High50.epw	
Results file: DSY2_2020H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds and MVHR with Extract fan	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Pass	-
Block C1- bed	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Pass	-
Block C3- 1B2P KLD	-	-	Pass	-
Block A AH1- Study	-	-	Pass	-
Block A AH2- Study	-	-	Pass	-
Block A AH3- Study	-	-	Pass	-
Block A AH4- Study	-	-	Pass	-
Block A AH5- Study	-	-	Pass	-
Block A AH6- Study	-	-	Pass	-
Block C4 - Bed	-	-	Pass	-
Block C5-bed	-	-	Pass	-
Block C6- 1B2P KLD	-	-	Pass	-
Block C4 - 2B3P KLD	-	-	Pass	-
CORRIDOR-BLOCK B	-	-	-	No
Block B2- bed	-	-	Pass	-
Block B2- 2B4P KLD	-	-	Pass	-
Block B3-Sbed	-	-	Pass	-
Block B2-2B4P KLD	-	-	Pass	-
Block B MH1- Bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B3-BED	-	-	Pass	-
Block C7- 1B2P KLD	-	-	Pass	-
Block C8- Sbed	-	-	Pass	-
Block C8- bed	-	-	Pass	-
Block C8- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Pass	-
Block B4- bed	-	-	Pass	-
Block B6- 2B4P KLD	-	-	Pass	-
Block B7- 2B3P KLD	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block B3-2B3P KLD	-	-	Pass	-
Block C3- bed	-	-	Pass	-
Block C1- Sbed	-	-	Pass	-
Block C2- 1B2P KLD	-	-	Pass	-
Block C4 - Sbed	-	-	Pass	-
Block C6- bed	-	-	Pass	-
Block C5-1B2P KLD	-	-	Pass	-
Block B5- bed	-	-	Pass	-
Block A AH2- 4B7P KLD	-	-	Pass	-
Block A AH3- 4B7P KLD	-	-	Pass	-
Block A2- 1B2P LD	-	-	Pass	-
Block A AH6- 4B7P KLD	-	-	Pass	-
Block A AH4- 4B7P KLD	-	-	Pass	-
Block A AH5- 4B7P KLD	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A2- Kitchen	-	-	Pass	-
Block A1- 2B4P KLD	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-
Block A AH5-bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A2-bed	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A3-2B4P KLD	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A AH6- BED	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Pass	-
Block A AH3- BED	-	-	Pass	-
Block A AH4-BED	-	-	Pass	-
Block A AH1- BED	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block A4-Study	-	-	Pass	-
Block B7- bed	-	-	Pass	-
Block B7- Sbed	-	-	Pass	-
Block B6- bath	-	-	Pass	-
Block B6- bed	-	-	Pass	-
Block B6- bed	-	-	Pass	-
BLOCK B MH4- 4B8P KLD	-	-	Pass	-
Block B MH3- 4B8P KLD	-	-	Pass	-
Block B MH2- 4B8P KLD	-	-	Pass	-
Block B MH1- 4B8P KLD	-	-	Pass	-
Block B2- bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- Study	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
Block B MH2-bed	-	-	Pass	-
Block B5- sbed	-	-	Pass	-
Block B5- 2B3P KLD	-	-	Pass	-
Block C8- 3B5P KLD	-	-	Pass	-
Block B2-bed	-	-	Pass	-
Block B4-Bed	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A AH1- 4B7P KLD	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
BLOCK B MH1- Study	-	-	Pass	-
Block B2-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
BLOCK B MH3- Study	-	-	Pass	-
Block B MH3-Bed	-	-	Pass	-
BLOCK B MH2- Study	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C7- Bed	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	0	0.0	Pass
Block C1- bed	0	0.0	Pass
Block C2- bed	0	0.0	Pass
Block C3- 1B2P KLD	0	0.0	Pass
Block A AH1- Study	0	0.0	Pass
Block A AH2- Study	0	0.0	Pass
Block A AH3- Study	0	0.0	Pass
Block A AH4- Study	0	0.0	Pass
Block A AH5- Study	0	0.0	Pass
Block A AH6- Study	0	0.0	Pass
Block C4 - Bed	0	0.0	Pass
Block C5-bed	0	0.0	Pass
Block C6- 1B2P KLD	0	0.0	Pass
Block C4 - 2B3P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B2- 2B4P KLD	0	0.0	Pass
Block B3-Sbed	0	0.0	Pass
Block B2-2B4P KLD	0	0.0	Pass
Block B MH1- Bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B3-BED	0	0.0	Pass
Block C7- 1B2P KLD	0	0.0	Pass
Block C8- Sbed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block B4- 2B4P KLD	0	0.0	Pass
Block B4- bed	0	0.0	Pass
Block B6- 2B4P KLD	0	0.0	Pass
Block B7- 2B3P KLD	0	0.0	Pass
Block A4-3B5P KLD	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block B3-2B3P KLD	0	0.0	Pass
Block C3- bed	1	0.0	Pass
Block C1- Sbed	0	0.0	Pass
Block C2- 1B2P KLD	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	0	0.0	Pass
Block C6- bed	34	0.4	Pass
Block C5-1B2P KLD	0	0.0	Pass
Block B5- bed	0	0.0	Pass
Block A AH2- 4B7P KLD	4	0.1	Pass
Block A AH3- 4B7P KLD	6	0.1	Pass
Block A2- 1B2P LD	0	0.0	Pass
Block A AH6- 4B7P KLD	0	0.0	Pass
Block A AH4- 4B7P KLD	0	0.0	Pass
Block A AH5- 4B7P KLD	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A2- Kitchen	0	0.0	Pass
Block A1- 2B4P KLD	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH5-bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A2-bed	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A3-2B4P KLD	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A AH6- BED	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH2- BED	0	0.0	Pass
Block A AH3- BED	0	0.0	Pass
Block A AH4-BED	0	0.0	Pass
Block A AH1- BED	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block A4-Study	0	0.0	Pass
Block B7- bed	22	0.3	Pass
Block B7- Sbed	0	0.0	Pass
Block B6- bath	0	0.0	Pass
Block B6- bed	0	0.0	Pass
Block B6- bed	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	0	0.0	Pass
Block B MH3- 4B8P KLD	0	0.0	Pass
Block B MH2- 4B8P KLD	0	0.0	Pass
Block B MH1- 4B8P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- Study	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
Block B MH2-bed	0	0.0	Pass
Block B5- sbed	0	0.0	Pass
Block B5- 2B3P KLD	0	0.0	Pass
Block C8- 3B5P KLD	0	0.0	Pass
Block B2-bed	0	0.0	Pass
Block B4-Bed	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A AH1- 4B7P KLD	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
BLOCK B MH1- Study	0	0.0	Pass
Block B2-bed	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
BLOCK B MH3- Study	0	0.0	Pass
Block B MH3-Bed	0	0.0	Pass
BLOCK B MH2- Study	0	0.0	Pass
Block C7- Bed	0	0.0	Pass

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR-BLOCK B	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH6- Study	7.33	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH3-bed	14.04	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C3- bed	17.42	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living- with summer bypass	Living Occupancy	Living Occupancy	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen with Summer bypass	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A3-Bed	17.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B6- bath	2.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bed	16.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH1-bed	15.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2-bed	16.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0.81
Block C1- bed	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0.68
Block C3- 1B2P KLD	0.15	0.5
Block A AH1- Study	0.15	1.39
Block A AH2- Study	0.15	1.55
Block A AH3- Study	0.15	1.49
Block A AH4- Study	0.15	1.33
Block A AH5- Study	0.15	1.44
Block A AH6- Study	0.15	1.59
Block C4 - Bed	0.15	0.54
Block C5-bed	0.15	0.54
Block C6- 1B2P KLD	0.15	0.4
Block C4 - 2B3P KLD	0.15	0.73
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	4.94
Block B2- 2B4P KLD	0.15	0.84
Block B3-Sbed	0.15	1.01
Block B2-2B4P KLD	0.15	0.77
Block B MH1- Bed	0.15	0.89
Block B MH2- Bed	0.15	0.93
Block B MH3-bed	0.15	0.92
BLOCK B MH4- bed	0.15	0.89
Block B3-BED	0.15	3.64
Block C7- 1B2P KLD	0.15	0.57
Block C8- Sbed	0.15	6.39
Block C8- bed	0.15	4.12
Block C8- bed	0.15	1.0
Block B4- 2B4P KLD	0.15	0.76
Block B4- bed	0.15	1.06
Block B6- 2B4P KLD	0.15	0.77
Block B7- 2B3P KLD	0.15	0.79
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0.59
Block A4-bed	0.15	4.77
Block B3-2B3P KLD	0.15	0.79
Block C3- bed	0.15	0.63
Block C1- Sbed	0.15	1.02
Block C2- 1B2P KLD	0.15	0.46

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0.93
Block C6- bed	0.15	0.51
Block C5-1B2P KLD	0.15	0.36
Block B5- bed	0.15	0.84
Block A AH2- 4B7P KLD	0.15	0.52
Block A AH3- 4B7P KLD	0.15	0.52
Block A2- 1B2P LD	0.15	0.99
Block A AH6- 4B7P KLD	0.15	0.54
Block A AH4- 4B7P KLD	0.15	0.49
Block A AH5- 4B7P KLD	0.15	0.51
Block A1- bed	0.15	0.82
Block A2- Kitchen	0.15	1.4
Block A1- 2B4P KLD	0.15	0.62
Block A AH1- bed	0.15	0.69
Block A AH1- bed	0.15	0.69
Block A AH2- bed	0.15	0.77
Block A AH2- bed	0.15	0.87
Block A AH3-Bed	0.15	0.76
Block A AH3-Bed	0.15	0.81
Block A AH4- bed	0.15	0.65
Block A AH4- bed	0.15	0.72
Block A AH5- bed	0.15	0.73
Block A AH5-bed	0.15	0.84
Block A AH6- bed	0.15	0.79
Block A AH6- bed	0.15	0.86
Block A2-bed	0.15	0.58
Block A3-Bed	0.15	0.68
Block A3-2B4P KLD	0.15	0.67
Block A3-Bed	0.15	0.63
Block A AH6- BED	0.15	4.19
Block A AH5- bed	0.15	3.97
Block A AH2- BED	0.15	3.97
Block A AH3- BED	0.15	3.97
Block A AH4-BED	0.15	3.6
Block A AH1- BED	0.15	3.61
Block A4-bed	0.15	0.48
Block A4-Study	0.15	0.87
Block B7- bed	0.15	0.73
Block B7- Sbed	0.15	1.02
Block B6- bath	0.15	4.87
Block B6- bed	0.15	0.79
Block B6- bed	0.15	0.92

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0.6
Block B MH3- 4B8P KLD	0.15	0.65
Block B MH2- 4B8P KLD	0.15	0.65
Block B MH1- 4B8P KLD	0.15	0.61
Block B2- bed	0.15	0.67
Block B MH2- Bed	0.15	0.99
Block B MH3-bed	0.15	0.97
BLOCK B MH4- Study	0.15	0.67
BLOCK B MH4- bed	0.15	0.81
Block B MH1-bed	0.15	0.84
Block B MH2-bed	0.15	0.84
Block B5- sbed	0.15	0.99
Block B5- 2B3P KLD	0.15	0.83
Block C8- 3B5P KLD	0.15	0.65
Block B2-bed	0.15	1.04
Block B4-Bed	0.15	0.86
Block A1- bed	0.15	4.12
Block A AH1- 4B7P KLD	0.15	0.47
Block B MH1-bed	0.15	0.91
BLOCK B MH1- Study	0.15	0.66
Block B2-bed	0.15	0.78
BLOCK B MH4- bed	0.15	0.95
BLOCK B MH3- Study	0.15	0.7
Block B MH3-Bed	0.15	0.8
BLOCK B MH2- Study	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	4.28

APPENDIX G

Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station, London

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Building details

Project name: Hornsey Police Station, London	Date: 21-08-2024 12:11:01
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation: Create Consulting Engineer Ltd
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY3_2020High50.epw	
Results file: DSY3_2020H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds and MVHR with Extract fan	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Pass	-
Block C1- bed	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Pass	-
Block C3- 1B2P KLD	-	-	Pass	-
Block A AH1- Study	-	-	Pass	-
Block A AH2- Study	-	-	Pass	-
Block A AH3- Study	-	-	Pass	-
Block A AH4- Study	-	-	Pass	-
Block A AH5- Study	-	-	Pass	-
Block A AH6- Study	-	-	Pass	-
Block C4 - Bed	-	-	Pass	-
Block C5-bed	-	-	Pass	-
Block C6- 1B2P KLD	-	-	Pass	-
Block C4 - 2B3P KLD	-	-	Pass	-
CORRIDOR-BLOCK B	-	-	-	No
Block B2- bed	-	-	Pass	-
Block B2- 2B4P KLD	-	-	Pass	-
Block B3-Sbed	-	-	Pass	-
Block B2-2B4P KLD	-	-	Pass	-
Block B MH1- Bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B3-BED	-	-	Pass	-
Block C7- 1B2P KLD	-	-	Pass	-
Block C8- Sbed	-	-	Pass	-
Block C8- bed	-	-	Pass	-
Block C8- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Pass	-
Block B4- bed	-	-	Pass	-
Block B6- 2B4P KLD	-	-	Pass	-
Block B7- 2B3P KLD	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block B3-2B3P KLD	-	-	Pass	-
Block C3- bed	-	-	Pass	-
Block C1- Sbed	-	-	Pass	-
Block C2- 1B2P KLD	-	-	Pass	-
Block C4 - Sbed	-	-	Pass	-
Block C6- bed	-	-	Pass	-
Block C5-1B2P KLD	-	-	Pass	-
Block B5- bed	-	-	Pass	-
Block A AH2- 4B7P KLD	-	-	Pass	-
Block A AH3- 4B7P KLD	-	-	Pass	-
Block A2- 1B2P LD	-	-	Pass	-
Block A AH6- 4B7P KLD	-	-	Pass	-
Block A AH4- 4B7P KLD	-	-	Pass	-
Block A AH5- 4B7P KLD	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A2- Kitchen	-	-	Pass	-
Block A1- 2B4P KLD	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-
Block A AH5-bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A2-bed	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A3-2B4P KLD	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A AH6- BED	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Pass	-
Block A AH3- BED	-	-	Pass	-
Block A AH4-BED	-	-	Pass	-
Block A AH1- BED	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block A4-Study	-	-	Pass	-
Block B7- bed	-	-	Pass	-
Block B7- Sbed	-	-	Pass	-
Block B6- bath	-	-	Pass	-
Block B6- bed	-	-	Pass	-
Block B6- bed	-	-	Pass	-
BLOCK B MH4- 4B8P KLD	-	-	Pass	-
Block B MH3- 4B8P KLD	-	-	Pass	-
Block B MH2- 4B8P KLD	-	-	Pass	-
Block B MH1- 4B8P KLD	-	-	Pass	-
Block B2- bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- Study	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
Block B MH2-bed	-	-	Pass	-
Block B5- sbed	-	-	Pass	-
Block B5- 2B3P KLD	-	-	Pass	-
Block C8- 3B5P KLD	-	-	Pass	-
Block B2-bed	-	-	Pass	-
Block B4-Bed	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A AH1- 4B7P KLD	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
BLOCK B MH1- Study	-	-	Pass	-
Block B2-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
BLOCK B MH3- Study	-	-	Pass	-
Block B MH3-Bed	-	-	Pass	-
BLOCK B MH2- Study	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C7- Bed	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	0	0.0	Pass
Block C1- bed	0	0.0	Pass
Block C2- bed	0	0.0	Pass
Block C3- 1B2P KLD	0	0.0	Pass
Block A AH1- Study	0	0.0	Pass
Block A AH2- Study	0	0.0	Pass
Block A AH3- Study	0	0.0	Pass
Block A AH4- Study	0	0.0	Pass
Block A AH5- Study	0	0.0	Pass
Block A AH6- Study	0	0.0	Pass
Block C4 - Bed	9	0.1	Pass
Block C5-bed	0	0.0	Pass
Block C6- 1B2P KLD	11	0.2	Pass
Block C4 - 2B3P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B2- 2B4P KLD	0	0.0	Pass
Block B3-Sbed	0	0.0	Pass
Block B2-2B4P KLD	0	0.0	Pass
Block B MH1- Bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- bed	51	0.6	Pass
Block B3-BED	0	0.0	Pass
Block C7- 1B2P KLD	0	0.0	Pass
Block C8- Sbed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block B4- 2B4P KLD	0	0.0	Pass
Block B4- bed	0	0.0	Pass
Block B6- 2B4P KLD	0	0.0	Pass
Block B7- 2B3P KLD	0	0.0	Pass
Block A4-3B5P KLD	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block B3-2B3P KLD	0	0.0	Pass
Block C3- bed	20	0.2	Pass
Block C1- Sbed	0	0.0	Pass
Block C2- 1B2P KLD	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	0	0.0	Pass
Block C6- bed	82	0.9	Pass
Block C5-1B2P KLD	0	0.0	Pass
Block B5- bed	0	0.0	Pass
Block A AH2- 4B7P KLD	2	0.0	Pass
Block A AH3- 4B7P KLD	15	0.3	Pass
Block A2- 1B2P LD	0	0.0	Pass
Block A AH6- 4B7P KLD	0	0.0	Pass
Block A AH4- 4B7P KLD	0	0.0	Pass
Block A AH5- 4B7P KLD	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A2- Kitchen	0	0.0	Pass
Block A1- 2B4P KLD	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH5-bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A2-bed	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A3-2B4P KLD	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A AH6- BED	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH2- BED	0	0.0	Pass
Block A AH3- BED	0	0.0	Pass
Block A AH4-BED	0	0.0	Pass
Block A AH1- BED	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block A4-Study	0	0.0	Pass
Block B7- bed	0	0.0	Pass
Block B7- Sbed	0	0.0	Pass
Block B6- bath	0	0.0	Pass
Block B6- bed	0	0.0	Pass
Block B6- bed	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	0	0.0	Pass
Block B MH3- 4B8P KLD	0	0.0	Pass
Block B MH2- 4B8P KLD	0	0.0	Pass
Block B MH1- 4B8P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- Study	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
Block B MH2-bed	0	0.0	Pass
Block B5- sbed	0	0.0	Pass
Block B5- 2B3P KLD	0	0.0	Pass
Block C8- 3B5P KLD	0	0.0	Pass
Block B2-bed	0	0.0	Pass
Block B4-Bed	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A AH1- 4B7P KLD	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
BLOCK B MH1- Study	0	0.0	Pass
Block B2-bed	0	0.0	Pass
BLOCK B MH4- bed	145	1.7	Pass
BLOCK B MH3- Study	0	0.0	Pass
Block B MH3-Bed	0	0.0	Pass
BLOCK B MH2- Study	0	0.0	Pass
Block C7- Bed	0	0.0	Pass

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR-BLOCK B	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH6- Study	7.33	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH3-bed	14.04	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C3- bed	17.42	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living- with summer bypass	Living Occupancy	Living Occupancy	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen with Summer bypass	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A3-Bed	17.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B6- bath	2.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bed	16.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH1-bed	15.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2-bed	16.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0.81
Block C1- bed	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0.68
Block C3- 1B2P KLD	0.15	0.5
Block A AH1- Study	0.15	1.39
Block A AH2- Study	0.15	1.55
Block A AH3- Study	0.15	1.49
Block A AH4- Study	0.15	1.33
Block A AH5- Study	0.15	1.44
Block A AH6- Study	0.15	1.59
Block C4 - Bed	0.15	0.54
Block C5-bed	0.15	0.54
Block C6- 1B2P KLD	0.15	0.4
Block C4 - 2B3P KLD	0.15	0.73
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	4.94
Block B2- 2B4P KLD	0.15	0.84
Block B3-Sbed	0.15	1.01
Block B2-2B4P KLD	0.15	0.77
Block B MH1- Bed	0.15	0.89
Block B MH2- Bed	0.15	0.93
Block B MH3-bed	0.15	0.92
BLOCK B MH4- bed	0.15	0.89
Block B3-BED	0.15	3.64
Block C7- 1B2P KLD	0.15	0.57
Block C8- Sbed	0.15	6.39
Block C8- bed	0.15	4.12
Block C8- bed	0.15	1.0
Block B4- 2B4P KLD	0.15	0.76
Block B4- bed	0.15	1.06
Block B6- 2B4P KLD	0.15	0.77
Block B7- 2B3P KLD	0.15	0.79
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0.59
Block A4-bed	0.15	4.77
Block B3-2B3P KLD	0.15	0.79
Block C3- bed	0.15	0.63
Block C1- Sbed	0.15	1.02
Block C2- 1B2P KLD	0.15	0.46

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0.93
Block C6- bed	0.15	0.51
Block C5-1B2P KLD	0.15	0.36
Block B5- bed	0.15	0.84
Block A AH2- 4B7P KLD	0.15	0.52
Block A AH3- 4B7P KLD	0.15	0.52
Block A2- 1B2P LD	0.15	0.99
Block A AH6- 4B7P KLD	0.15	0.54
Block A AH4- 4B7P KLD	0.15	0.49
Block A AH5- 4B7P KLD	0.15	0.51
Block A1- bed	0.15	0.82
Block A2- Kitchen	0.15	1.4
Block A1- 2B4P KLD	0.15	0.62
Block A AH1- bed	0.15	0.69
Block A AH1- bed	0.15	0.69
Block A AH2- bed	0.15	0.77
Block A AH2- bed	0.15	0.87
Block A AH3-Bed	0.15	0.76
Block A AH3-Bed	0.15	0.81
Block A AH4- bed	0.15	0.65
Block A AH4- bed	0.15	0.72
Block A AH5- bed	0.15	0.73
Block A AH5-bed	0.15	0.84
Block A AH6- bed	0.15	0.79
Block A AH6- bed	0.15	0.86
Block A2-bed	0.15	0.58
Block A3-Bed	0.15	0.68
Block A3-2B4P KLD	0.15	0.67
Block A3-Bed	0.15	0.63
Block A AH6- BED	0.15	4.19
Block A AH5- bed	0.15	3.97
Block A AH2- BED	0.15	3.97
Block A AH3- BED	0.15	3.97
Block A AH4-BED	0.15	3.6
Block A AH1- BED	0.15	3.61
Block A4-bed	0.15	0.48
Block A4-Study	0.15	0.87
Block B7- bed	0.15	0.73
Block B7- Sbed	0.15	1.02
Block B6- bath	0.15	4.87
Block B6- bed	0.15	0.79
Block B6- bed	0.15	0.92

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0.6
Block B MH3- 4B8P KLD	0.15	0.65
Block B MH2- 4B8P KLD	0.15	0.65
Block B MH1- 4B8P KLD	0.15	0.61
Block B2- bed	0.15	0.67
Block B MH2- Bed	0.15	0.99
Block B MH3-bed	0.15	0.97
BLOCK B MH4- Study	0.15	0.67
BLOCK B MH4- bed	0.15	0.81
Block B MH1-bed	0.15	0.84
Block B MH2-bed	0.15	0.84
Block B5- sbed	0.15	0.99
Block B5- 2B3P KLD	0.15	0.83
Block C8- 3B5P KLD	0.15	0.65
Block B2-bed	0.15	1.04
Block B4-Bed	0.15	0.86
Block A1- bed	0.15	4.12
Block A AH1- 4B7P KLD	0.15	0.47
Block B MH1-bed	0.15	0.91
BLOCK B MH1- Study	0.15	0.66
Block B2-bed	0.15	0.78
BLOCK B MH4- bed	0.15	0.95
BLOCK B MH3- Study	0.15	0.7
Block B MH3-Bed	0.15	0.8
BLOCK B MH2- Study	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	4.28

APPENDIX H

Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station, London

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Building details

Project name: Hornsey Police Station, London	Date: 21-08-2024 12:11:41
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation: Create Consulting Engineer Ltd
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY1_2050High50.epw	
Results file: DSY1_2050H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds and MVHR with Extract fan	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Pass	-
Block C1- bed	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Pass	-
Block C3- 1B2P KLD	-	-	Pass	-
Block A AH1- Study	-	-	Pass	-
Block A AH2- Study	-	-	Pass	-
Block A AH3- Study	-	-	Pass	-
Block A AH4- Study	-	-	Pass	-
Block A AH5- Study	-	-	Pass	-
Block A AH6- Study	-	-	Pass	-
Block C4 - Bed	-	-	Pass	-
Block C5-bed	-	-	Pass	-
Block C6- 1B2P KLD	-	-	Pass	-
Block C4 - 2B3P KLD	-	-	Pass	-
CORRIDOR-BLOCK B	-	-	-	No
Block B2- bed	-	-	Pass	-
Block B2- 2B4P KLD	-	-	Pass	-
Block B3-Sbed	-	-	Pass	-
Block B2-2B4P KLD	-	-	Pass	-
Block B MH1- Bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B3-BED	-	-	Pass	-
Block C7- 1B2P KLD	-	-	Pass	-
Block C8- Sbed	-	-	Pass	-
Block C8- bed	-	-	Pass	-
Block C8- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Pass	-
Block B4- bed	-	-	Pass	-
Block B6- 2B4P KLD	-	-	Pass	-
Block B7- 2B3P KLD	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block B3-2B3P KLD	-	-	Pass	-
Block C3- bed	-	-	Pass	-
Block C1- Sbed	-	-	Pass	-
Block C2- 1B2P KLD	-	-	Pass	-
Block C4 - Sbed	-	-	Pass	-
Block C6- bed	-	-	Pass	-
Block C5-1B2P KLD	-	-	Pass	-
Block B5- bed	-	-	Pass	-
Block A AH2- 4B7P KLD	-	-	Pass	-
Block A AH3- 4B7P KLD	-	-	Pass	-
Block A2- 1B2P LD	-	-	Pass	-
Block A AH6- 4B7P KLD	-	-	Pass	-
Block A AH4- 4B7P KLD	-	-	Pass	-
Block A AH5- 4B7P KLD	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A2- Kitchen	-	-	Pass	-
Block A1- 2B4P KLD	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-
Block A AH5-bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A2-bed	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A3-2B4P KLD	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A AH6- BED	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Pass	-
Block A AH3- BED	-	-	Pass	-
Block A AH4-BED	-	-	Pass	-
Block A AH1- BED	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block A4-Study	-	-	Pass	-
Block B7- bed	-	-	Pass	-
Block B7- Sbed	-	-	Pass	-
Block B6- bath	-	-	Pass	-
Block B6- bed	-	-	Pass	-
Block B6- bed	-	-	Pass	-
BLOCK B MH4- 4B8P KLD	-	-	Pass	-
Block B MH3- 4B8P KLD	-	-	Pass	-
Block B MH2- 4B8P KLD	-	-	Pass	-
Block B MH1- 4B8P KLD	-	-	Pass	-
Block B2- bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- Study	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
Block B MH2-bed	-	-	Pass	-
Block B5- sbed	-	-	Pass	-
Block B5- 2B3P KLD	-	-	Pass	-
Block C8- 3B5P KLD	-	-	Pass	-
Block B2-bed	-	-	Pass	-
Block B4-Bed	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A AH1- 4B7P KLD	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
BLOCK B MH1- Study	-	-	Pass	-
Block B2-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
BLOCK B MH3- Study	-	-	Pass	-
Block B MH3-Bed	-	-	Pass	-
BLOCK B MH2- Study	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C7- Bed	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	0	0.0	Pass
Block C1- bed	0	0.0	Pass
Block C2- bed	0	0.0	Pass
Block C3- 1B2P KLD	0	0.0	Pass
Block A AH1- Study	0	0.0	Pass
Block A AH2- Study	0	0.0	Pass
Block A AH3- Study	0	0.0	Pass
Block A AH4- Study	0	0.0	Pass
Block A AH5- Study	0	0.0	Pass
Block A AH6- Study	0	0.0	Pass
Block C4 - Bed	4	0.0	Pass
Block C5-bed	0	0.0	Pass
Block C6- 1B2P KLD	1	0.0	Pass
Block C4 - 2B3P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B2- 2B4P KLD	0	0.0	Pass
Block B3-Sbed	0	0.0	Pass
Block B2-2B4P KLD	0	0.0	Pass
Block B MH1- Bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- bed	5	0.1	Pass
Block B3-BED	0	0.0	Pass
Block C7- 1B2P KLD	0	0.0	Pass
Block C8- Sbed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block B4- 2B4P KLD	0	0.0	Pass
Block B4- bed	0	0.0	Pass
Block B6- 2B4P KLD	0	0.0	Pass
Block B7- 2B3P KLD	0	0.0	Pass
Block A4-3B5P KLD	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block B3-2B3P KLD	0	0.0	Pass
Block C3- bed	8	0.1	Pass
Block C1- Sbed	0	0.0	Pass
Block C2- 1B2P KLD	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	0	0.0	Pass
Block C6- bed	39	0.4	Pass
Block C5-1B2P KLD	0	0.0	Pass
Block B5- bed	0	0.0	Pass
Block A AH2- 4B7P KLD	0	0.0	Pass
Block A AH3- 4B7P KLD	11	0.2	Pass
Block A2- 1B2P LD	0	0.0	Pass
Block A AH6- 4B7P KLD	0	0.0	Pass
Block A AH4- 4B7P KLD	0	0.0	Pass
Block A AH5- 4B7P KLD	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A2- Kitchen	0	0.0	Pass
Block A1- 2B4P KLD	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH5-bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A2-bed	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A3-2B4P KLD	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A AH6- BED	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH2- BED	0	0.0	Pass
Block A AH3- BED	0	0.0	Pass
Block A AH4-BED	0	0.0	Pass
Block A AH1- BED	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block A4-Study	0	0.0	Pass
Block B7- bed	0	0.0	Pass
Block B7- Sbed	0	0.0	Pass
Block B6- bath	0	0.0	Pass
Block B6- bed	0	0.0	Pass
Block B6- bed	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	0	0.0	Pass
Block B MH3- 4B8P KLD	0	0.0	Pass
Block B MH2- 4B8P KLD	0	0.0	Pass
Block B MH1- 4B8P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- Study	0	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
Block B MH2-bed	0	0.0	Pass
Block B5- sbed	0	0.0	Pass
Block B5- 2B3P KLD	0	0.0	Pass
Block C8- 3B5P KLD	0	0.0	Pass
Block B2-bed	0	0.0	Pass
Block B4-Bed	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A AH1- 4B7P KLD	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
BLOCK B MH1- Study	0	0.0	Pass
Block B2-bed	0	0.0	Pass
BLOCK B MH4- bed	50	0.6	Pass
BLOCK B MH3- Study	0	0.0	Pass
Block B MH3-Bed	0	0.0	Pass
BLOCK B MH2- Study	0	0.0	Pass
Block C7- Bed	0	0.0	Pass

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR-BLOCK B	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH6- Study	7.33	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH3-bed	14.04	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C3- bed	17.42	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living- with summer bypass	Living Occupancy	Living Occupancy	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen with Summer bypass	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A3-Bed	17.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B6- bath	2.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bed	16.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH1-bed	15.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2-bed	16.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0.81
Block C1- bed	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0.68
Block C3- 1B2P KLD	0.15	0.5
Block A AH1- Study	0.15	1.39
Block A AH2- Study	0.15	1.55
Block A AH3- Study	0.15	1.49
Block A AH4- Study	0.15	1.33
Block A AH5- Study	0.15	1.44
Block A AH6- Study	0.15	1.59
Block C4 - Bed	0.15	0.54
Block C5-bed	0.15	0.54
Block C6- 1B2P KLD	0.15	0.4
Block C4 - 2B3P KLD	0.15	0.73
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	4.94
Block B2- 2B4P KLD	0.15	0.84
Block B3-Sbed	0.15	1.01
Block B2-2B4P KLD	0.15	0.77
Block B MH1- Bed	0.15	0.89
Block B MH2- Bed	0.15	0.93
Block B MH3-bed	0.15	0.92
BLOCK B MH4- bed	0.15	0.89
Block B3-BED	0.15	3.64
Block C7- 1B2P KLD	0.15	0.57
Block C8- Sbed	0.15	6.39
Block C8- bed	0.15	4.12
Block C8- bed	0.15	1.0
Block B4- 2B4P KLD	0.15	0.76
Block B4- bed	0.15	1.06
Block B6- 2B4P KLD	0.15	0.77
Block B7- 2B3P KLD	0.15	0.79
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0.59
Block A4-bed	0.15	4.77
Block B3-2B3P KLD	0.15	0.79
Block C3- bed	0.15	0.63
Block C1- Sbed	0.15	1.02
Block C2- 1B2P KLD	0.15	0.46

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0.93
Block C6- bed	0.15	0.51
Block C5-1B2P KLD	0.15	0.36
Block B5- bed	0.15	0.84
Block A AH2- 4B7P KLD	0.15	0.52
Block A AH3- 4B7P KLD	0.15	0.52
Block A2- 1B2P LD	0.15	0.99
Block A AH6- 4B7P KLD	0.15	0.54
Block A AH4- 4B7P KLD	0.15	0.49
Block A AH5- 4B7P KLD	0.15	0.51
Block A1- bed	0.15	0.82
Block A2- Kitchen	0.15	1.4
Block A1- 2B4P KLD	0.15	0.62
Block A AH1- bed	0.15	0.69
Block A AH1- bed	0.15	0.69
Block A AH2- bed	0.15	0.77
Block A AH2- bed	0.15	0.87
Block A AH3-Bed	0.15	0.76
Block A AH3-Bed	0.15	0.81
Block A AH4- bed	0.15	0.65
Block A AH4- bed	0.15	0.72
Block A AH5- bed	0.15	0.73
Block A AH5-bed	0.15	0.84
Block A AH6- bed	0.15	0.79
Block A AH6- bed	0.15	0.86
Block A2-bed	0.15	0.58
Block A3-Bed	0.15	0.68
Block A3-2B4P KLD	0.15	0.67
Block A3-Bed	0.15	0.63
Block A AH6- BED	0.15	4.19
Block A AH5- bed	0.15	3.97
Block A AH2- BED	0.15	3.97
Block A AH3- BED	0.15	3.97
Block A AH4-BED	0.15	3.6
Block A AH1- BED	0.15	3.61
Block A4-bed	0.15	0.48
Block A4-Study	0.15	0.87
Block B7- bed	0.15	0.73
Block B7- Sbed	0.15	1.02
Block B6- bath	0.15	4.87
Block B6- bed	0.15	0.79
Block B6- bed	0.15	0.92

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0.6
Block B MH3- 4B8P KLD	0.15	0.65
Block B MH2- 4B8P KLD	0.15	0.65
Block B MH1- 4B8P KLD	0.15	0.61
Block B2- bed	0.15	0.67
Block B MH2- Bed	0.15	0.99
Block B MH3-bed	0.15	0.97
BLOCK B MH4- Study	0.15	0.67
BLOCK B MH4- bed	0.15	0.81
Block B MH1-bed	0.15	0.84
Block B MH2-bed	0.15	0.84
Block B5- sbed	0.15	0.99
Block B5- 2B3P KLD	0.15	0.83
Block C8- 3B5P KLD	0.15	0.65
Block B2-bed	0.15	1.04
Block B4-Bed	0.15	0.86
Block A1- bed	0.15	4.12
Block A AH1- 4B7P KLD	0.15	0.47
Block B MH1-bed	0.15	0.91
BLOCK B MH1- Study	0.15	0.66
Block B2-bed	0.15	0.78
BLOCK B MH4- bed	0.15	0.95
BLOCK B MH3- Study	0.15	0.7
Block B MH3-Bed	0.15	0.8
BLOCK B MH2- Study	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	4.28

APPENDIX I

Approved Document O report
Overheating risk in residential buildings
for
Hornsey Police Station, London

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Building details

Project name: Hornsey Police Station, London	Date: 21-08-2024 12:12:25
Location: London City Ap, United Kingdom	
Address:	
Building use: Residential	
Are there any security, noise, or pollution issues: Yes	

Designer's details

Designer's name:
Designer's organisation: Create Consulting Engineer Ltd
Designer's address:

Dynamic thermal model

Software: IESVE version 2023.5.1.0	
Weather file: London_LWC_DSY1_2080High50.epw	
Results file: DSY1_2080H50.aps	
Number of rooms analysed: 109	
TM59: summer elevated air speed: 0.1	
TM59: occupant category: Category II (normal)	
Overheating mitigation strategy: External Blinds and MVHR with Extract fan	
Has the building construction proposal been modelled accurately?	YES
Have the analysed rooms passed the assessment for Approved Doc O Dynamic Thermal Modelling Method (CIBSE TM 59)?	YES
Designer's signature:	

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Summary

CIBSE TM59 overheating methodology for predominantly naturally ventilated rooms assesses against two criteria, (a) and (b) (for Category I occupancy, T_{max} is reduced by 1K):

- Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours
- Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Approved document O applies limits to CIBSE TM59 section 3.3 (openings); these requirements are applied by appropriate assignment of MacroFlo types / scripted profiles in the model (see Modelled Openings Section).

CIBSE TM59 overheating methodology for predominantly mechanically ventilated rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

CIBSE TM59 also states that the inclusion of corridors in the overheating analysis is mandatory where community heating pipework runs through them. While there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of the total annual hours this should be identified as a significant risk.

Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block C1- 2B3P KLD	-	-	Pass	-
Block C1- bed	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C2- bed	-	-	Pass	-
Block C3- 1B2P KLD	-	-	Pass	-
Block A AH1- Study	-	-	Pass	-
Block A AH2- Study	-	-	Pass	-
Block A AH3- Study	-	-	Pass	-
Block A AH4- Study	-	-	Pass	-
Block A AH5- Study	-	-	Pass	-
Block A AH6- Study	-	-	Pass	-
Block C4 - Bed	-	-	Pass	-
Block C5-bed	-	-	Pass	-
Block C6- 1B2P KLD	-	-	Pass	-
Block C4 - 2B3P KLD	-	-	Pass	-
CORRIDOR-BLOCK B	-	-	-	No
Block B2- bed	-	-	Pass	-
Block B2- 2B4P KLD	-	-	Pass	-
Block B3-Sbed	-	-	Pass	-
Block B2-2B4P KLD	-	-	Pass	-
Block B MH1- Bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B3-BED	-	-	Pass	-
Block C7- 1B2P KLD	-	-	Pass	-
Block C8- Sbed	-	-	Pass	-
Block C8- bed	-	-	Pass	-
Block C8- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block B4- 2B4P KLD	-	-	Pass	-
Block B4- bed	-	-	Pass	-
Block B6- 2B4P KLD	-	-	Pass	-
Block B7- 2B3P KLD	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block A4-3B5P KLD	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block B3-2B3P KLD	-	-	Pass	-
Block C3- bed	-	-	Pass	-
Block C1- Sbed	-	-	Pass	-
Block C2- 1B2P KLD	-	-	Pass	-
Block C4 - Sbed	-	-	Pass	-
Block C6- bed	-	-	Pass	-
Block C5-1B2P KLD	-	-	Pass	-
Block B5- bed	-	-	Pass	-
Block A AH2- 4B7P KLD	-	-	Pass	-
Block A AH3- 4B7P KLD	-	-	Pass	-
Block A2- 1B2P LD	-	-	Pass	-
Block A AH6- 4B7P KLD	-	-	Pass	-
Block A AH4- 4B7P KLD	-	-	Pass	-
Block A AH5- 4B7P KLD	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A2- Kitchen	-	-	Pass	-
Block A1- 2B4P KLD	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH1- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH2- bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH3-Bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH4- bed	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-
Block A AH5-bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A AH6- bed	-	-	Pass	-
Block A2-bed	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A3-2B4P KLD	-	-	Pass	-
Block A3-Bed	-	-	Pass	-
Block A AH6- BED	-	-	Pass	-
Block A AH5- bed	-	-	Pass	-

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Room name	Naturally ventilated Criterion a check	Naturally ventilated Criterion b check	Mechanically ventilated check	Corridor overheating risk check
Block A AH2- BED	-	-	Pass	-
Block A AH3- BED	-	-	Pass	-
Block A AH4-BED	-	-	Pass	-
Block A AH1- BED	-	-	Pass	-
Block A4-bed	-	-	Pass	-
Block A4-Study	-	-	Pass	-
Block B7- bed	-	-	Pass	-
Block B7- Sbed	-	-	Pass	-
Block B6- bath	-	-	Pass	-
Block B6- bed	-	-	Pass	-
Block B6- bed	-	-	Pass	-
BLOCK B MH4- 4B8P KLD	-	-	Pass	-
Block B MH3- 4B8P KLD	-	-	Pass	-
Block B MH2- 4B8P KLD	-	-	Pass	-
Block B MH1- 4B8P KLD	-	-	Pass	-
Block B2- bed	-	-	Pass	-
Block B MH2- Bed	-	-	Pass	-
Block B MH3-bed	-	-	Pass	-
BLOCK B MH4- Study	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
Block B MH2-bed	-	-	Pass	-
Block B5- sbed	-	-	Pass	-
Block B5- 2B3P KLD	-	-	Pass	-
Block C8- 3B5P KLD	-	-	Pass	-
Block B2-bed	-	-	Pass	-
Block B4-Bed	-	-	Pass	-
Block A1- bed	-	-	Pass	-
Block A AH1- 4B7P KLD	-	-	Pass	-
Block B MH1-bed	-	-	Pass	-
BLOCK B MH1- Study	-	-	Pass	-
Block B2-bed	-	-	Pass	-
BLOCK B MH4- bed	-	-	Pass	-
BLOCK B MH3- Study	-	-	Pass	-
Block B MH3-Bed	-	-	Pass	-
BLOCK B MH2- Study	-	-	Pass	-
CORRIDOR- BLOCK C	-	-	-	No
Block C7- Bed	-	-	Pass	-

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Naturally ventilated rooms – criterion (a)

Criterion (a) states that for living rooms, kitchens and bedrooms, the number of hours during which ΔT is greater than or equal to 1K from May to September (or November to March for southern hemisphere locations) shall not exceed 3% of occupied hours.

Room name	Occupied hours	No. hours $\Delta T \geq 1^\circ\text{K}$	% Occupied hours $\Delta T \geq 1^\circ\text{K}$	Criterion a check
No nat vent rooms	N/A	N/A	N/A	N/A

Naturally ventilated rooms – criterion (b)

Criterion (b) states that the operative temperature of the bedrooms from 22:00-07:00 shall not exceed 26°C for more than 1% of annual hours (33 hours is therefore recorded as a fail). Any rooms that are not bedrooms are therefore not assessed, hence the corresponding N/A values.

Room name	No. hours > 26°C 22:00-24:00	No. hours > 26°C 00:00-07:00	Total hours > 26°C	Criterion b check
No nat vent rooms	N/A	N/A	N/A	N/A

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Mechanically ventilated rooms

CIBSE TM59 overheating methodology for predominantly mech. vent. rooms states the operative temperature of all rooms shall not exceed 26°C for more than 3% of annual occupied hours.

Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C1- 2B3P KLD	0	0.0	Pass
Block C1- bed	0	0.0	Pass
Block C2- bed	0	0.0	Pass
Block C3- 1B2P KLD	0	0.0	Pass
Block A AH1- Study	0	0.0	Pass
Block A AH2- Study	0	0.0	Pass
Block A AH3- Study	0	0.0	Pass
Block A AH4- Study	0	0.0	Pass
Block A AH5- Study	0	0.0	Pass
Block A AH6- Study	0	0.0	Pass
Block C4 - Bed	91	1.0	Pass
Block C5-bed	0	0.0	Pass
Block C6- 1B2P KLD	75	1.6	Pass
Block C4 - 2B3P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B2- 2B4P KLD	0	0.0	Pass
Block B3-Sbed	0	0.0	Pass
Block B2-2B4P KLD	0	0.0	Pass
Block B MH1- Bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- bed	143	1.6	Pass
Block B3-BED	0	0.0	Pass
Block C7- 1B2P KLD	0	0.0	Pass
Block C8- Sbed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block C8- bed	0	0.0	Pass
Block B4- 2B4P KLD	0	0.0	Pass
Block B4- bed	0	0.0	Pass
Block B6- 2B4P KLD	0	0.0	Pass
Block B7- 2B3P KLD	0	0.0	Pass
Block A4-3B5P KLD	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block B3-2B3P KLD	0	0.0	Pass
Block C3- bed	103	1.2	Pass
Block C1- Sbed	0	0.0	Pass
Block C2- 1B2P KLD	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
Block C4 - Sbed	0	0.0	Pass
Block C6- bed	259	3.0	Pass
Block C5-1B2P KLD	11	0.2	Pass
Block B5- bed	0	0.0	Pass
Block A AH2- 4B7P KLD	100	2.1	Pass
Block A AH3- 4B7P KLD	116	2.4	Pass
Block A2- 1B2P LD	0	0.0	Pass
Block A AH6- 4B7P KLD	8	0.2	Pass
Block A AH4- 4B7P KLD	78	1.6	Pass
Block A AH5- 4B7P KLD	40	0.8	Pass
Block A1- bed	0	0.0	Pass
Block A2- Kitchen	0	0.0	Pass
Block A1- 2B4P KLD	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH1- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH2- bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH3-Bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH4- bed	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH5-bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A AH6- bed	0	0.0	Pass
Block A2-bed	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A3-2B4P KLD	0	0.0	Pass
Block A3-Bed	0	0.0	Pass
Block A AH6- BED	0	0.0	Pass
Block A AH5- bed	0	0.0	Pass
Block A AH2- BED	0	0.0	Pass
Block A AH3- BED	0	0.0	Pass
Block A AH4-BED	0	0.0	Pass
Block A AH1- BED	0	0.0	Pass
Block A4-bed	0	0.0	Pass
Block A4-Study	0	0.0	Pass
Block B7- bed	77	0.9	Pass
Block B7- Sbed	0	0.0	Pass
Block B6- bath	0	0.0	Pass
Block B6- bed	0	0.0	Pass
Block B6- bed	0	0.0	Pass

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Room name	No. hours > 26°C	% Annual hours > 26°C	Mechanically ventilated check
BLOCK B MH4- 4B8P KLD	0	0.0	Pass
Block B MH3- 4B8P KLD	0	0.0	Pass
Block B MH2- 4B8P KLD	0	0.0	Pass
Block B MH1- 4B8P KLD	0	0.0	Pass
Block B2- bed	0	0.0	Pass
Block B MH2- Bed	0	0.0	Pass
Block B MH3-bed	0	0.0	Pass
BLOCK B MH4- Study	1	0.0	Pass
BLOCK B MH4- bed	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
Block B MH2-bed	0	0.0	Pass
Block B5- sbed	0	0.0	Pass
Block B5- 2B3P KLD	0	0.0	Pass
Block C8- 3B5P KLD	0	0.0	Pass
Block B2-bed	0	0.0	Pass
Block B4-Bed	0	0.0	Pass
Block A1- bed	0	0.0	Pass
Block A AH1- 4B7P KLD	0	0.0	Pass
Block B MH1-bed	0	0.0	Pass
BLOCK B MH1- Study	0	0.0	Pass
Block B2-bed	0	0.0	Pass
BLOCK B MH4- bed	205	2.3	Pass
BLOCK B MH3- Study	0	0.0	Pass
Block B MH3-Bed	0	0.0	Pass
BLOCK B MH2- Study	0	0.0	Pass
Block C7- Bed	0	0.0	Pass

Communal corridors

CIBSE TM59 states that whilst there is no mandatory target for communal corridors, if an operative temperature of 28°C is exceeded for more than 3% of annual hours, then this should be identified as a significant risk within the TM59 overheating report.

Room name	No. hours > 28°C	% Annual hours > 28°C	Corridor overheating risk check
CORRIDOR- BLOCK C	143	1.6	No
CORRIDOR-BLOCK B	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No
CORRIDOR- BLOCK C	0	0.0	No

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Modelled details & overheating mitigation strategy

Approved document O: Providing Information & Appendix B requires information about the model and the overheating mitigation strategy. The following tables detail the modelling method and mitigation strategies applied to each analysed room. Where multiple active openings per space (windows & louvres) exist they are all listed. Occupancy, equipment and lighting profiles for occupied rooms comply with TM59 section 5.

Modelled occupancy

Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block C1- 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C1- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	18.83	TM59 - Circulation - Corridors			on continuously
Block C2- bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C3- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- Study	7.87	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH2- Study	7.05	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH3- Study	7.3	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH4- Study	8.2	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block A AH5- Study	7.56	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH6- Study	7.33	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C4 - Bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-bed	16.2	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C6- 1B2P KLD	28.7	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - 2B3P KLD	30.36	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR-BLOCK B	19.03	TM59 - Circulation - Corridors			on continuously
Block B2- bed	13.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2- 2B4P KLD	30.48	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B3-Sbed	12.73	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B2-2B4P KLD	33.24	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- Bed	14.48	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	13.79	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH3-bed	14.04	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	14.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-BED	17.65	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C7- 1B2P KLD	29.54	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- Sbed	10.07	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C8- bed	15.62	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C8- bed	12.91	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4- 2B4P KLD	33.92	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B4- bed	12.13	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- 2B4P KLD	33.26	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B7- 2B3P KLD	32.52	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
CORRIDOR- BLOCK C	16.65	TM59 - Circulation - Corridors			on continuously

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A4-3B5P KLD	37.07	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A4-bed	11.43	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B3-2B3P KLD	32.69	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C3- bed	17.42	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C1- Sbed	11.8	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C2- 1B2P KLD	31.42	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C4 - Sbed	11.81	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block C6- bed	17.35	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block C5-1B2P KLD	32.03	TM59 - 1 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B5- bed	15.27	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- 4B7P KLD	41.7	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH3- 4B7P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A2- 1B2P LD	16.49	TM59 - 1 Bedroom - Living- with summer bypass	Living Occupancy	Living Occupancy	18-23h
Block A AH6- 4B7P KLD	40.43	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH4- 4B7P KLD	44.81	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH5- 4B7P KLD	42.48	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A1- bed	13.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2- Kitchen	7.77	TM59 - 1 Bedroom - Kitchen with Summer bypass	Kitchen Occupancy	Kitchen Equipment	18-23h
Block A1- 2B4P KLD	35.47	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block A AH1- bed	15.83	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- bed	15.81	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- bed	14.17	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A AH2- bed	12.5	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	14.4	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3-Bed	13.44	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	16.85	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4- bed	15.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5-bed	13.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	13.75	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- bed	12.67	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A2-bed	18.71	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-Bed	16.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A3-2B4P KLD	32.67	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block A3-Bed	17.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH6- BED	17.92	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH5- bed	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH2- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH3- BED	18.89	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH4-BED	20.82	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- BED	20.8	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-bed	22.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A4-Study	12.57	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B7- bed	17.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B7- Sbed	12.66	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B6- bath	2.64	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B6- bed	16.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B6- bed	14.03	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- 4B8P KLD	42.89	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH3- 4B8P KLD	39.51	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH2- 4B8P KLD	39.57	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1- 4B8P KLD	41.91	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2- bed	19.26	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2- Bed	12.97	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-bed	13.29	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- Study	19.28	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	15.96	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B MH1-bed	15.25	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH2-bed	15.56	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B5- sbed	12.93	TM59 - Single Bedroom - with MVHR summer bypass	Single Bedroom Occupancy	Single Bedroom Equipment	18-23h
Block B5- 2B3P KLD	30.91	TM59 - 2 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block C8- 3B5P KLD	39.32	TM59 - 3 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B2-bed	12.31	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B4-Bed	14.9	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A1- bed	13.23	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block A AH1- 4B7P KLD	46.76	TM59 - 4 Bedroom - Living / Kitchen - with MVHR summer bypass	Living / Kitchen Occupancy	Living / Kitchen Equipment	18-23h
Block B MH1-bed	14.14	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH1- Study	19.63	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Room name	Floor area m ²	Thermal template	Occupancy profile	Equipment profile	Lighting profile
Block B2-bed	16.46	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH4- bed	13.54	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH3- Study	18.45	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
Block B MH3-Bed	16.0	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
BLOCK B MH2- Study	18.84	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h
CORRIDOR- BLOCK C	10.54	TM59 - Circulation - Corridors			on continuously
Block C7- Bed	15.01	TM59 - Double Bedroom - with MVHR Summer bypass	Double Bedroom Occupancy	Double Bedroom Equipment	18-23h

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Modelled openings

Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C1- 2B3P KLD	13.91	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	4.98	off continuously, on continuously
Block C1- bed	24.25	0.52	2.64, 2.64, 1.98, 1.98	0.0, 0.0, 80.0, 80.0	19.56	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	10.46	0.52	2.16, 1.98	0.0, 0.0	0.0	off continuously
Block C2- bed	20.5	0.25	1.79, 1.79, 1.98	0.0, 0.0, 80.0	9.78	off continuously, DOOR Open 07:00-22:00
Block C3- 1B2P KLD	4.96	0.25	1.79, 1.98, 1.89	0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block A AH1- Study	19.88	0.52	2.37, 1.89	0.0, 80.0	19.21	off continuously, DOOR Open 07:00-22:00
Block A AH2- Study	20.79	0.52	2.37, 1.89	0.0, 80.0	21.45	off continuously, DOOR Open 07:00-22:00
Block A AH3- Study	20.96	0.52	2.37, 1.89	0.0, 80.0	20.71	off continuously, DOOR Open 07:00-22:00
Block A AH4- Study	18.7	0.52	2.37, 1.89	0.0, 80.0	18.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- Study	20.04	0.52	2.37, 1.89	0.0, 80.0	20.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- Study	20.63	0.52	2.37, 1.89	0.0, 80.0	20.63	off continuously, DOOR Open 07:00-22:00
Block C4 - Bed	17.52	0.52	2.64, 2.64, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C5-bed	19.1	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	9.33	off continuously, DOOR Open 07:00-22:00
Block C6- 1B2P KLD	12.05	0.25, 0.52	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	5.27	off continuously, on continuously
Block C4 - 2B3P KLD	9.47	0.25	1.89, 1.79, 1.79	80.0, 0.0, 0.0	4.98	off continuously, on continuously
CORRIDOR-BLOCK B	0.0		1.99	0.0	0.0	off continuously
Block B2- bed	19.35	0.52	1.89, 1.98	0.0, 80.0	12.18	off continuously, DOOR Open 07:00-22:00
Block B2- 2B4P KLD	40.06	0.25, 0.25, 0.52	3.93, 1.26, 1.26, 1.26, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.96	off continuously, on continuously
Block B3-Sbed	39.16	0.25	1.86, 1.89	0.0, 80.0	11.88	off continuously, DOOR Open 07:00-22:00
Block B2-2B4P KLD	15.1	0.25, 0.25, 0.52	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B MH1- Bed	9.12	0.25	1.87, 0.01, 0.01, 1.04, 1.04	80.0, 80.0, 80.0, 0.0, 0.0	10.44	off continuously, DOOR Open 07:00-22:00
Block B MH2- Bed	13.13	0.25	1.89, 1.04, 1.04	80.0, 0.0, 0.0	10.96	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	13.08	0.25	1.89, 1.04, 1.03	80.0, 0.0, 0.0	10.77	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	13.25	0.25	1.98, 1.03, 1.03	80.0, 0.0, 0.0	10.95	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B3-BED	7.32	0.25	1.89, 1.86	80.0, 0.0	8.57	off continuously, DOOR Open 07:00-22:00
Block C7- 1B2P KLD	18.75	0.25, 0.25, 0.25, 0.52	1.89, 0.82, 0.82, 2.07, 2.53, 2.53	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	5.12	off continuously, on continuously
Block C8- Sbed	8.81	0.25	1.89, 0.82	80.0, 0.0	15.01	off continuously, DOOR Open 07:00-22:00
Block C8- bed	3.16	0.25	1.89, 0.82	80.0, 0.0	9.68	off continuously, DOOR Open 07:00-22:00
Block C8- bed	23.94	0.25	2.07, 1.89	0.0, 80.0	11.71	off continuously, DOOR Open 07:00-22:00
Block B4- 2B4P KLD	23.89	0.25, 0.25, 0.52	2.73, 1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.46	off continuously, on continuously
Block B4- bed	42.81	0.25	1.66, 1.89	0.0, 80.0	12.46	off continuously, DOOR Open 07:00-22:00
Block B6- 2B4P KLD	15.76	0.52, 0.25, 0.25	1.86, 1.86, 1.86, 1.89	0.0, 0.0, 0.0, 80.0	4.55	off continuously, on continuously
Block B7- 2B3P KLD	17.11	0.25, 0.25	2.07, 2.07, 1.86	0.0, 0.0, 0.0	0.0	off continuously
CORRIDOR- BLOCK C	0.0				0.0	
Block A4-3B5P KLD	15.01	0.25, 0.25, 0.52	1.76, 1.76, 2.07, 2.07, 2.07, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	4.08	off continuously, on continuously
Block A4-bed	17.37	0.25	1.89, 1.76	80.0, 0.0	13.23	off continuously, DOOR Open 07:00-22:00
Block B3-2B3P KLD	20.62	0.25, 0.25, 0.25	1.86, 1.86, 1.86, 1.68, 1.89	0.0, 0.0, 0.0, 0.0, 80.0	4.63	off continuously, on continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block C3- bed	19.39	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.68	off continuously, DOOR Open 07:00-22:00
Block C1- Sbed	17.2	0.25	1.79, 1.89	0.0, 80.0	12.81	off continuously, DOOR Open 07:00-22:00
Block C2- 1B2P KLD	14.71	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.81	off continuously, on continuously
Block C4 - Sbed	11.82	0.25	1.79, 1.89	0.0, 80.0	12.8	off continuously, DOOR Open 07:00-22:00
Block C6- bed	15.53	0.25	2.64, 2.64, 1.89	0.0, 0.0, 80.0	8.71	off continuously, DOOR Open 07:00-22:00
Block C5-1B2P KLD	10.74	0.25, 0.25	1.79, 1.79, 1.79, 1.89	0.0, 0.0, 0.0, 80.0	4.72	off continuously, on continuously
Block B5- bed	11.02	0.25	1.86, 1.89	0.0, 80.0	9.9	off continuously, DOOR Open 07:00-22:00
Block A AH2- 4B7P KLD	36.89	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.63	off continuously, on continuously
Block A AH3- 4B7P KLD	41.51	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A2- 1B2P LD	17.66	0.25	1.77, 1.98, 1.05, 1.89	0.0, 0.0, 0.0, 80.0	9.17	off continuously, on continuously
Block A AH6- 4B7P KLD	44.64	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.77	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH4- 4B7P KLD	41.79	0.52, 0.25	2.64, 2.64, 2.64, 2.64, 1.76	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously
Block A AH5- 4B7P KLD	43.13	0.25, 0.52	1.76, 2.64, 2.64, 2.64, 2.64	0.0, 0.0, 0.0, 0.0, 0.0	0.0	off continuously

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A1- bed	7.9	0.25	1.76, 1.89	0.0, 80.0	11.36	off continuously, DOOR Open 07:00-22:00
Block A2- Kitchen	11.07	0.25	2.09, 0.86	0.0, 0.0	0.0	off continuously
Block A1- 2B4P KLD	20.62	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	4.26	off continuously, on continuously
Block A AH1- bed	10.41	0.52	1.57, 1.57, 1.89	0.0, 0.0, 80.0	9.55	off continuously, DOOR Open 07:00-22:00
Block A AH1- bed	9.74	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	9.56	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	24.48	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	10.67	off continuously, DOOR Open 07:00-22:00
Block A AH2- bed	15.01	0.25	1.31, 1.89	0.0, 80.0	12.1	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	24.3	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	10.5	off continuously, DOOR Open 07:00-22:00
Block A AH3-Bed	26.31	0.25	1.31, 1.31, 1.89	0.0, 0.0, 80.0	11.25	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	22.83	0.52	1.57, 1.58, 1.89	0.0, 0.0, 80.0	8.97	off continuously, DOOR Open 07:00-22:00
Block A AH4- bed	15.9	0.25	1.89, 1.78	80.0, 0.0	9.99	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.14	0.52	1.58, 1.57, 1.89	0.0, 0.0, 80.0	10.07	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH5-bed	18.41	0.25	1.79, 1.89	0.0, 80.0	11.63	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	25.24	0.52	1.58, 1.58, 1.89	0.0, 0.0, 80.0	11.0	off continuously, DOOR Open 07:00-22:00
Block A AH6- bed	19.0	0.25	1.79, 1.89	0.0, 80.0	11.93	off continuously, DOOR Open 07:00-22:00
Block A2-bed	12.69	0.25	1.79, 1.79, 1.89	0.0, 0.0, 80.0	8.08	off continuously, DOOR Open 07:00-22:00
Block A3-Bed	13.86	0.52, 0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	9.44	off continuously, DOOR Open 07:00-22:00
Block A3-2B4P KLD	11.53	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	4.63	off continuously, on continuously
Block A3-Bed	34.97	0.25	2.1, 2.1, 1.89	0.0, 0.0, 80.0	8.77	off continuously, DOOR Open 07:00-22:00
Block A AH6- BED	26.4	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.44	off continuously, DOOR Open 07:00-22:00
Block A AH5- bed	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH2- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH3- BED	24.46	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	8.0	off continuously, DOOR Open 07:00-22:00
Block A AH4-BED	22.19	0.52	1.89, 1.3, 1.3, 1.3	80.0, 0.0, 0.0, 0.0	7.26	off continuously, DOOR Open 07:00-22:00

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- BED	13.77	0.52	1.3, 1.3, 1.3, 1.89	0.0, 0.0, 0.0, 80.0	7.27	off continuously, DOOR Open 07:00-22:00
Block A4-bed	9.04	0.25	1.76, 1.76, 0.05, 1.84	0.0, 0.0, 80.0, 80.0	6.68	off continuously, DOOR Open 07:00-22:00
Block A4-Study	15.68	0.25	1.76, 1.76, 1.89	0.0, 0.0, 80.0	12.03	off continuously, DOOR Open 07:00-22:00
Block B7- bed	14.57	0.25, 0.25	1.86, 1.86	0.0, 0.0	0.0	off continuously
Block B7- Sbed	17.25	0.25	1.86	0.0	0.0	off continuously
Block B6- bath	0.0				0.0	
Block B6- bed	15.67	0.52, 0.52	2.07, 1.86, 1.89	0.0, 0.0, 80.0	9.32	off continuously, DOOR Open 07:00-22:00
Block B6- bed	11.98	0.25	1.66, 1.89	0.0, 80.0	10.78	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- 4B8P KLD	26.87	0.52, 0.25	1.89, 2.42, 2.42, 2.42, 2.42, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.53	off continuously, on continuously
Block B MH3- 4B8P KLD	48.97	0.52, 0.25	1.95, 1.89, 2.64, 2.64, 2.64, 2.64	0.0, 80.0, 0.0, 0.0, 0.0, 0.0	3.83	off continuously, on continuously
Block B MH2- 4B8P KLD	44.92	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.82	off continuously, on continuously
Block B MH1- 4B8P KLD	41.95	0.25, 0.52	2.42, 2.42, 2.42, 2.42, 1.89, 1.89	0.0, 0.0, 0.0, 0.0, 0.0, 80.0	3.61	off continuously, on continuously
Block B2- bed	29.83	0.25	1.98, 1.26, 1.26, 1.26, 1.26	80.0, 0.0, 0.0, 0.0, 0.0	8.22	off continuously, DOOR Open 07:00-22:00

Hornsey Police Station, London

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block B MH2- Bed	22.49	0.52	1.43, 1.43, 1.89	0.0, 0.0, 80.0	11.66	off continuously, DOOR Open 07:00-22:00
Block B MH3-bed	22.3	0.52	2.82, 1.89	0.0, 80.0	11.38	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- Study	7.51	0.52	2.07, 1.89	0.0, 80.0	7.84	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	11.35	0.25	1.68, 1.89	0.0, 80.0	9.47	off continuously, DOOR Open 07:00-22:00
Block B MH1-bed	8.63	0.25	1.68, 1.89	0.0, 80.0	9.91	off continuously, DOOR Open 07:00-22:00
Block B MH2-bed	13.68	0.25	2.07, 1.89	0.0, 80.0	9.72	off continuously, DOOR Open 07:00-22:00
Block B5- sbed	14.32	0.25	1.89, 2.73	80.0, 0.0	11.69	off continuously, DOOR Open 07:00-22:00
Block B5- 2B3P KLD	19.59	0.25, 0.25, 0.25	2.73, 1.89, 1.89, 1.89	0.0, 0.0, 0.0, 80.0	4.89	off continuously, on continuously
Block C8- 3B5P KLD	15.61	0.25, 0.52, 0.25, 0.25	1.89, 2.53, 2.53, 1.89, 0.82, 0.82	80.0, 0.0, 0.0, 0.0, 0.0, 0.0	3.85	off continuously, on continuously
Block B2-bed	0.0		1.89	80.0	12.28	DOOR Open 07:00-22:00
Block B4-Bed	28.62	0.52, 0.52	1.89, 1.86, 1.86	80.0, 0.0, 0.0	10.15	off continuously, DOOR Open 07:00-22:00
Block A1- bed	16.02	0.52, 0.25	2.1, 1.89, 1.78	0.0, 80.0, 0.0	11.43	off continuously, DOOR Open 07:00-22:00

Hornsey Police Station, London

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Room name	Window to wall ratio %	Window g-value (EN 410)	Opening gross area m ²	Opening free area (avg) %	Opening free area / floor area ratio %	Opening profile(s)
Block A AH1- 4B7P KLD	9.25	0.25, 0.52	1.89, 1.78, 2.64	80.0, 0.0, 0.0	3.23	off continuously, on continuously
Block B MH1-bed	22.04	0.52	2.52, 1.89	0.0, 80.0	10.69	off continuously, DOOR Open 07:00-22:00
BLOCK B MH1- Study	13.18	0.52	2.52, 1.89	0.0, 80.0	7.7	off continuously, DOOR Open 07:00-22:00
Block B2-bed	16.3	0.52, 0.52	1.89, 1.89, 1.68	80.0, 0.0, 0.0	9.19	off continuously, DOOR Open 07:00-22:00
BLOCK B MH4- bed	18.88	0.52	2.02, 1.98	0.0, 80.0	11.7	off continuously, DOOR Open 07:00-22:00
BLOCK B MH3- Study	10.85	0.52	2.52, 1.89	0.0, 80.0	8.2	off continuously, DOOR Open 07:00-22:00
Block B MH3-Bed	10.78	0.25	1.68, 1.89	0.0, 80.0	9.45	off continuously, DOOR Open 07:00-22:00
BLOCK B MH2- Study	10.95	0.52	2.52, 1.88	0.0, 80.0	7.98	off continuously, DOOR Open 07:00-22:00
CORRIDOR- BLOCK C	0.0				0.0	
Block C7- Bed	3.01	0.25	1.89, 0.82	80.0, 0.0	10.07	off continuously, DOOR Open 07:00-22:00

Hornsey Police Station, London

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Modelled ventilation

Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C1- 2B3P KLD	0.15	0.81
Block C1- bed	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C2- bed	0.15	0.68
Block C3- 1B2P KLD	0.15	0.5
Block A AH1- Study	0.15	1.39
Block A AH2- Study	0.15	1.55
Block A AH3- Study	0.15	1.49
Block A AH4- Study	0.15	1.33
Block A AH5- Study	0.15	1.44
Block A AH6- Study	0.15	1.59
Block C4 - Bed	0.15	0.54
Block C5-bed	0.15	0.54
Block C6- 1B2P KLD	0.15	0.4
Block C4 - 2B3P KLD	0.15	0.73
CORRIDOR-BLOCK B	0.15	0
Block B2- bed	0.15	4.94
Block B2- 2B4P KLD	0.15	0.84
Block B3-Sbed	0.15	1.01
Block B2-2B4P KLD	0.15	0.77
Block B MH1- Bed	0.15	0.89
Block B MH2- Bed	0.15	0.93
Block B MH3-bed	0.15	0.92
BLOCK B MH4- bed	0.15	0.89
Block B3-BED	0.15	3.64
Block C7- 1B2P KLD	0.15	0.57
Block C8- Sbed	0.15	6.39
Block C8- bed	0.15	4.12
Block C8- bed	0.15	1.0
Block B4- 2B4P KLD	0.15	0.76
Block B4- bed	0.15	1.06
Block B6- 2B4P KLD	0.15	0.77
Block B7- 2B3P KLD	0.15	0.79
CORRIDOR- BLOCK C	0.15	0
Block A4-3B5P KLD	0.15	0.59
Block A4-bed	0.15	4.77
Block B3-2B3P KLD	0.15	0.79
Block C3- bed	0.15	0.63
Block C1- Sbed	0.15	1.02
Block C2- 1B2P KLD	0.15	0.46

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
Block C4 - Sbed	0.15	0.93
Block C6- bed	0.15	0.51
Block C5-1B2P KLD	0.15	0.36
Block B5- bed	0.15	0.84
Block A AH2- 4B7P KLD	0.15	0.52
Block A AH3- 4B7P KLD	0.15	0.52
Block A2- 1B2P LD	0.15	0.99
Block A AH6- 4B7P KLD	0.15	0.54
Block A AH4- 4B7P KLD	0.15	0.49
Block A AH5- 4B7P KLD	0.15	0.51
Block A1- bed	0.15	0.82
Block A2- Kitchen	0.15	1.4
Block A1- 2B4P KLD	0.15	0.62
Block A AH1- bed	0.15	0.69
Block A AH1- bed	0.15	0.69
Block A AH2- bed	0.15	0.77
Block A AH2- bed	0.15	0.87
Block A AH3-Bed	0.15	0.76
Block A AH3-Bed	0.15	0.81
Block A AH4- bed	0.15	0.65
Block A AH4- bed	0.15	0.72
Block A AH5- bed	0.15	0.73
Block A AH5-bed	0.15	0.84
Block A AH6- bed	0.15	0.79
Block A AH6- bed	0.15	0.86
Block A2-bed	0.15	0.58
Block A3-Bed	0.15	0.68
Block A3-2B4P KLD	0.15	0.67
Block A3-Bed	0.15	0.63
Block A AH6- BED	0.15	4.19
Block A AH5- bed	0.15	3.97
Block A AH2- BED	0.15	3.97
Block A AH3- BED	0.15	3.97
Block A AH4-BED	0.15	3.6
Block A AH1- BED	0.15	3.61
Block A4-bed	0.15	0.48
Block A4-Study	0.15	0.87
Block B7- bed	0.15	0.73
Block B7- Sbed	0.15	1.02
Block B6- bath	0.15	4.87
Block B6- bed	0.15	0.79
Block B6- bed	0.15	0.92

Hornsey Police Station, London

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Room name	Infiltration rate ACH	Mech vent flow rate ACH
BLOCK B MH4- 4B8P KLD	0.15	0.6
Block B MH3- 4B8P KLD	0.15	0.65
Block B MH2- 4B8P KLD	0.15	0.65
Block B MH1- 4B8P KLD	0.15	0.61
Block B2- bed	0.15	0.67
Block B MH2- Bed	0.15	0.99
Block B MH3-bed	0.15	0.97
BLOCK B MH4- Study	0.15	0.67
BLOCK B MH4- bed	0.15	0.81
Block B MH1-bed	0.15	0.84
Block B MH2-bed	0.15	0.84
Block B5- sbed	0.15	0.99
Block B5- 2B3P KLD	0.15	0.83
Block C8- 3B5P KLD	0.15	0.65
Block B2-bed	0.15	1.04
Block B4-Bed	0.15	0.86
Block A1- bed	0.15	4.12
Block A AH1- 4B7P KLD	0.15	0.47
Block B MH1-bed	0.15	0.91
BLOCK B MH1- Study	0.15	0.66
Block B2-bed	0.15	0.78
BLOCK B MH4- bed	0.15	0.95
BLOCK B MH3- Study	0.15	0.7
Block B MH3-Bed	0.15	0.8
BLOCK B MH2- Study	0.15	0.68
CORRIDOR- BLOCK C	0.15	0
Block C7- Bed	0.15	4.28

APPENDIX J



EXTERNAL SHADING PRODUCT SPECIFICATION MANUAL 2023

Antiguan Blinds to AHMM Offices - Morelands |



Creating cool, comfortable, sustainable spaces for over 35 years

UK Manufactured Since 1987. Our external shading systems are proudly made at our factory in Sudbury, Suffolk by our highly skilled technicians and state of the art machinery to ensure they meet exacting standards and are the very pinnacle of precision.

Built to last a lifetime. Every member of our team take great pride and care in crafting each external shading system to your exact specification and requirements, ensuring every detail and finish is perfect, right down even to the colour of the stitching.

Quality guaranteed. All our products are rigorously tested to meet or exceed stringent quality & safety standards, offering a superior specification to all others on the market and backed with an industry leading guarantee, upto 5 years, for peace of mind.

☎ 0344 800 1947

✉ info@cbsolarshading.co.uk

🌐 www.cbsolarshading.co.uk

 **CARIBBEAN
BLINDS UK LTD**

PATIO AWNINGS
Pages 10 - 15



EXTERNAL BLINDS
Pages 16 - 21



LOUVERED ROOFS
Pages 22 - 29



IO-HOMECONTROL®

The next generation of motors, controls and sensors, exclusively featured on all patio awnings and external blinds from Caribbean Blinds



TWO WAY

A communicative installation: io-homecontrol® makes it possible to exchange information between control units, automated systems and motors, enabling feedback in real time, thus making installation, use and maintenance easier.

MULTI-FREQUENCIES

More reliable transmission: io-homecontrol® scans three radio frequencies between 868 and 870 MHz and automatically chooses the best one to transmit the command.

ENCRYPTED

Dialogue is 100% secure: The tamperproof 128-bit encryption key will thwart any hacking attempt. This encryption key is exclusive to each installation and provides the same level as an online bank transaction.

RANGE

Guaranteed coverage: The frequency used (868 MHz) produces excellent results in terms of signal propagation and guarantees coverage within a radius of at least 20m in a concrete building. Out in the open this range increases to at least 200m.

SITUO 5 VAR A/M

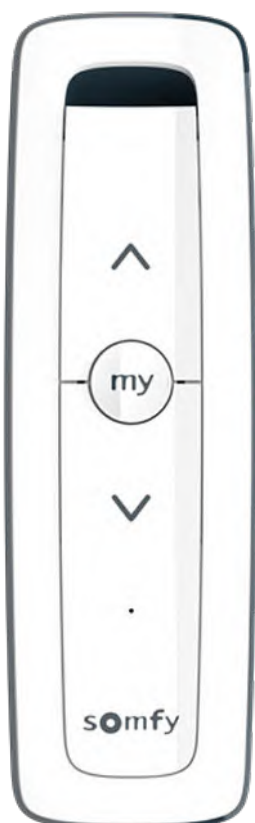
All in one handset

- 4+1 channels (individual & group control)
- Auto/Manual function (switch sun sensor on/off)
 - Scroll wheel (dim lighting)
- My favourite position (intermediate point)
- Complete with wall bracket (use as a wall switch)

(fitted with 1 x CR2430 battery)



 TaHoma®



SITUO 1 PURE

Single channel handset

- 1 channel
- Complete with wall bracket
(fitted with 1 x CR2430 battery)



SITUO 5 PURE

Multi channel handset

- 4+1 channels
- Complete with wall bracket
(fitted with 1 x CR2430 battery)



EOLIS 3D WIREFREE IO

Vibration sensor for patio awnings

- Sensitivity: 0 - 0.75 g-force
(fitted with 2 x AAA batteries)



EOLIS WIRED IO

Wind sensor for patio awnings & external blinds

- Sensitivity: 20 - 88 km/h (5 - 10 Bft)
(fitted with 5m, 2 core, live, neutral, black power cable)



SOLIRIS WIRED IO

Sun & wind sensor for patio awnings & external blinds

- Wind Sensitivity: 20 - 88 km/h (5 - 10 Bft)
- Sun Sensitivity: 0 - 55 kLux
(fitted with 5m, 2 core, live, neutral, black power cable)

Do more with io when connected to TaHoma® Switch

Tahoma® Switch is a smart hub that connects to the home broadband, allowing control of external shading system(s) from anywhere with wifi via the Tahoma® app on a smartphone, tablet or computer.

- **Enjoy real time control:** set exactly the position the external shading system is needed and it will go to the desired point.
- **Create different scenarios:** enable simultaneous control of a group of external shading systems, to go to pre-determined positions.
- **Set an agenda:** ensure external shading systems go to pre-set positions created in scenarios automatically at the required times of the day.

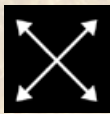
PREMIUM QUALITY HIGH-TEX FABRICS

The most technically advanced and luxurious fabrics, exclusively featured on all patio awnings and external blinds from Caribbean Blinds



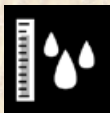
FADE RESISTANT

Colours are dyed all the way through to the core of the fibre (see below)



DIMENSIONALLY STABLE

Fabric does not warp, stretch or tear when under tension



WATER REPELLENT

Highest water column of 460mm, similar to that of a marine boat cover



EXTRAORDINARY COLOUR LUMINOSITY

Colours that shine and come alive when backlit with the sun



SELF CLEANING

Unique nano-tech coating ensures the fabric keeps a clean visual appearance, along with preventing mould, algae & fungi growth



OPTIMUM UV PROTECTION

Certified to UV Standard 801 offering a minimum UV block of 97.5%, which corresponds to a UPF (ultraviolet protection factor) 60

↓ SOLUTION DYED SATTLER ACRYLIC

Colour pigments are infused all the way to the core of the fibre ensuring the colours stay true



YARN DYED FIBRES FROM OTHER BRANDS ↑

Pigments penetrate just the outer surface of the fabric, therefore these fabrics will fade over time

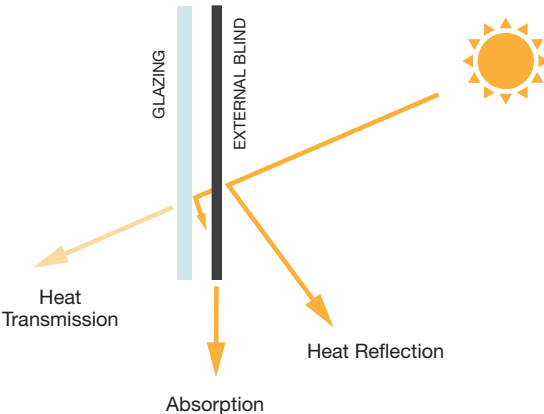
THE
WORLD OF
SATTLER

quality woven into every fibre

FABRIC PERFORMANCE

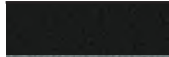
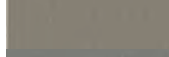
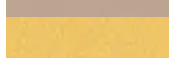
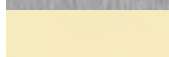
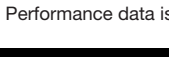


Premium Twilight Comfort mesh ‘dimout’ and World of Sattler solid ‘blockout’ fabrics that offer unbeatable solar heat block, optimum glare control and the highest UV protection.



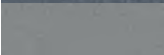
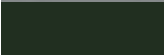
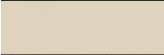
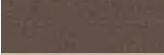
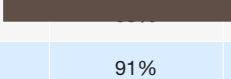
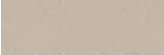
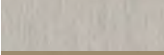
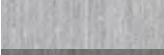
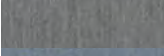
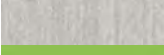
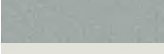
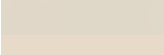
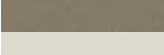
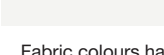
VIEW THROUGH TWILIGHT COMFORT MESH DIMOUT FABRIC

(fabric codes starting 262)

DESIGN	Fabric Code / Name	Heat Block	Light Transmission	UV Block	Openness Factor	View Through
	262 154 - Black	93%	4.5%	97.5%	4%	✓
	262 621 - Cement	88%	9.2%	97.5%	4%	✓
	262 721 - Platinum	88%	11.0%	97.5%	4%	✓
	262 802 - Smoke	89%	12.2%	97.5%	4%	✓
	262 810 - Taupe	90%	6.3%	97.5%	4%	✓
	262 814 - Graphite	91%	8.6%	97.5%	4%	✓
	262 815 - Slate	91%	7.0%	97.5%	4%	✓
	262 830 - Steel	92%	6.6%	97.5%	4%	✓
	338 001 - Ruby	88%	0.7%	97.5%	0%	✗
	338 003 - Sulphur	86%	13.1%	97.5%	0%	✗
	338 011 - Sapphire	94%	0.0%	97.5%	0%	✗
	338 018 - Selenite	85%	20.0%	97.5%	0%	✗
	338 020 - Dolomit	86%	9.2%	97.5%	0%	✗
	338 027 - Limonite	88%	10.8%	97.5%	0%	✗
	338 028 - Actinolite	95%	4.6%	97.5%	0%	✗
	338 033 - Aragonit	82%	24.9%	97.5%	0%	✗
	338 040 - Brasiliante	93%	3.1%	97.5%	0%	✗
	338 044 - Cinnabar	95%	0.0%	97.5%	0%	✗
	338 048 - Rubellite	94%	0.3%	97.5%	0%	✗
	338 053 - Celestine	88%	5.9%	97.5%	0%	✗
	338 054 - Aquamarine	90%	1.3	97.5%	0%	✗
	338 055 - Gneiss	95%	0.0%	97.5%	0%	✗

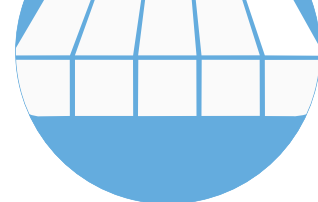
Performance data is purely indicative and has been calculated according to EN 13363-1 with double glazed unit: U = 1.2 | g = 0.59.

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

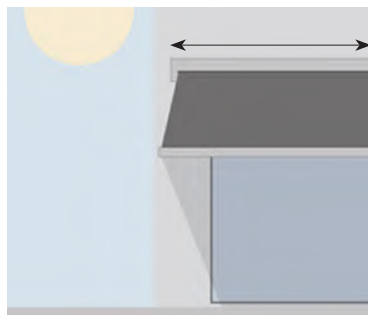
DESIGN	Fabric Code / Name	Heat Block	Light Transmission	UV Block	Openness Factor	View Through
	338 058 - Magnetite	95%	0.3%	97.5%	0%	✗
	338 062 - Jadeite	89%	1.4%	97.5%	0%	✗
	338 068 - Serpentine	95%	0.0%	97.5%	0%	✗
	338 070 - Kaolinite		16.7%	97.5%	0%	✗
	338 071 - Flint		0.4%	97.5%	0%	✗
	338 072 - Kainite	91%	6.1%	97.5%	0%	✗
	338 078 - Muscovite	90%	8.6%	97.5%	0%	✗
	338 079 - Siderite	95%	1.1%	97.5%	0%	✗
	338 081 - Acanthite	93%	5.0%	97.5%	0%	✗
	338 082 - Platinum	89%	12.6%	97.5%	0%	✗
	338 084 - Meteor	95%	0.8%	97.5%	0%	✗
	338 085 - Neptunite	95%	1.0%	97.5%	0%	✗
	338 086 - Mariposite	94%	1.6%	97.5%	0%	✗
	338 087 - Moonstone	89%	12.5%	97.5%	0%	✗
	338 089 - Peridot	92%	2.9%	97.5%	0%	✗
	338 136 - Hematite	90%	5.6%	97.5%	0%	✗
	338 144 - Alabaster	84%	20.3%	97.5%	0%	✗
	338 154 - Onyx	97%	0.0%	97.5%	0%	✗
	338 306 - Tigereye	86%	3.5%	97.5%	0%	✗
	338 362 - Emerald	97%	0.0%	97.5%	0%	✗
	338 398 - Slate	97%	0.2%	97.5%	0%	✗
	338 406 - Granat	97%	0.0%	97.5%	0%	✗
	338 609 - Nephrite	92%	2.6%	97.5%	0%	✗
	338 710 - Alunit	84%	16.2%	97.5%	0%	✗
	338 711 - Magnesite	87%	15.0%	97.5%	0%	✗
	338 712 - Barite	90%	5.2%	97.5%	0%	✗
	338 713 - Bronzit	95%	1.5%	97.5%	0%	✗
	338 808 - Beryl	89%	12.3%	97.5%	0%	✗
	338 809 - Silver	95%	2.8%	97.5%	0%	✗
	338 810 - Apatite	96%	1.3%	97.5%	0%	✗
	338 811 - Chalcedon	92%	7.0%	97.5%	0%	✗
	338 812 - Calcite	91%	0.6%	97.5%	0%	✗
	338 813 - Galenite	93%	6.1%	97.5%	0%	✗
	338 910 - Crystal	79%	26.4%	97.5%	0%	✗

Fabric colours have been reproduced in print as accurately as possible but may vary slightly from the actual material. We strongly recommend ordering physical samples.

PATIO AWNINGS



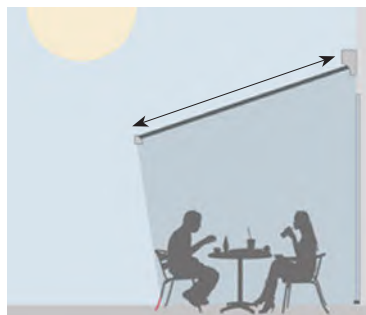
Our premium UK manufactured patio awnings feature superstrong alu frameworks, next generation motors & controls and exclusive CBA fabrics that upto 50% less dirt adheres.



WIDTH

The width of a patio awning is the measurement from outside to outside of cassette casing.

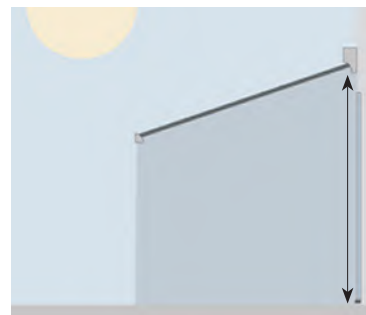
It is recommended to overhang the door or window the awning is going over by a **minimum** 0.5m (50cm) each side to offer adequate shade.



PROJECTION

The projection of a patio awning is the size (depth) of the folding arms.

It is recommended to select a **minimum** projection of 3m to provide good coverage to a terrace, with larger projections offering more flexibility.



MOUNTING HEIGHT

The mounting height of a patio awning is the distance from the ground to underside of cassette on the facade.

It is recommended to install a patio awning with a **14 degree+ pitch (25cm/m fall - factory set) for rain shower water run off.**

Based on a 2m leadrail (walk under) height when the awning is fully extended, the suggested awning mounting height is:

- 1.5m projection = 2.5m
- 2.0m projection = 2.6m
- 2.5m projection = 2.7m
- 3.0m projection = 2.8m
- 3.5m projection = 2.9m
- 3.75m projection = 3.0m



POWER

Our motorised patio awnings are fitted with a 3 core 0.75, live, neutral, earth, black 5m UV stabilised cable.

• Upto 4 awnings with / without LED lighting can be connected to a standard 13amp plug socket / spur (each heater requires a dedicated 13amp supply).

Overview...



Model	Casing	Fixing Points	Width from - to	Projection fixed arm sizes	Pitch angle
ANGUILLA Budget friendly awning for residential applications	Full Cassette 152mm high x 223mm deep	End Fix bracket at each end of awning	1.78m - 5.00m	- 1.50m - 2.00m - 2.50m - 3.00m	0 - 45 degrees 0cm - 75cm fall per metre
TORTOLA The UK's most popular awning for residential applications	Full Cassette 152mm high x 223mm deep	End Fix bracket at each end of awning	1.78m - 5.00m	- 1.50m - 2.00m - 2.50m - 3.00m	0 - 45 degrees 0cm - 75cm fall per metre
CUBA The ultimate awning for residential & commercial applications	Full Cassette 225mm high x 140mm deep	Multi Fix brackets across width of awning	2.05m - 7.0m (single unit) 14.0m (coupled unit)	- 1.50m - 2.00m - 2.50m - 3.00m - 3.50m - 3.75m	5 - 38 degrees 10cm - 65cm fall per metre

IMPORTANT FABRIC INFORMATION

Despite the most advanced manufacturing techniques, rippling and puckering of the material will occur around the seams (where the fabric is joined - vertical joins every 1.2m) and at the edges (hems) due to the double thickness of material on these parts 'v' the single thickness of the main panel of fabric. This is a natural characteristic that cannot be avoided, however it will not affect the function or performance of our patio awnings.

For further information including visuals please refer to the 'Product Properties of External Shading Fabrics' on page 30-31.

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

Patio awnings create a considerable load where the arms attach to the cassette, which is subsequently transferred to the fixing bracket behind. This load can be as great as 370kg. Whilst the majority of brick built houses (2+ storey properties) can accept this load using the standard face fix brackets supplied with our awnings thanks to the weight of the brickwork above the ground floor level, single storey buildings, from bungalows to extensions do not possess any structural strength at the top of the wall and therefore require specially designed brackets to safely and securely attach them.

SPREADER PLATES

Spreader plates are typically used on single storey extensions where there is adequate space above the doors/windows to position a patio awning. Spreader plates, as the name suggests, spreads the fixing load created by patio awnings safely down the façade, whilst positioning the patio awning to the top.

CANTILEVER BRACKETS

Sometimes referred to as gutter brackets, cantilever brackets are typically used on bungalows where there is not sufficient space above the doors/windows to position a patio awning. They are similar to spreader plates, in that they spread the fixing load created by the patio awning safely down the façade but they wrap around the fascia, positioning the patio awning in front of the guttering, ensuring a sensible mounting height and subsequently pitch for the patio awning.



SPREADER PLATE INSTALLATION ↑

← CANTILEVER BRACKET INSTALLATION

ANGUILLA & TORTOLA AWNING



• Without bracket covers • With bracket covers

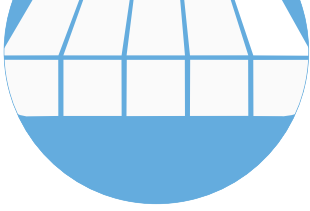


Operation	Hardware	Fabric	Fabric Width	Arms	Brackets	Wind Class EN13561
Manual Gear Box & Crank Handle	- Anthracite Grey RAL 7016 matt textured - White RAL 9016 semi gloss - Any other RAL colour	World of Sattler - Leaf - 3D Surface - Landscape - Urban - Solids	- 210mm less than awning width	66mm Twin Cable pressure die cast joints - upto 5.0m wide = 2	Face or Top Fix 100mm wide - upto 5.0m wide = 2	Class 2 Beaufort 5 Fresh breeze, small trees begin to sway
Somfy IO Motorised Remote Control	- Anthracite Grey RAL 7016 matt textured - White RAL 9016 semi gloss - Any other RAL colour	World of Sattler - Leaf - 3D Surface - Landscape - Urban - Solids	- 230mm less than awning width	66mm Twin Cable pressure die cast joints - upto 5.0m wide = 2	Face or Top Fix 100mm wide - upto 5.0m wide = 2	Class 2 Beaufort 5 Fresh breeze, small trees begin to sway
Somfy IO Motorised Remote Control	- Anthracite Grey RAL 7016 matt textured - White RAL 9016 semi gloss - Any other RAL colour	World of Sattler - Leaf - 3D Surface - Landscape - Urban - Solids	- 170mm less than awning width	73mm Quad Cable drop forged joints - upto 5.5m wide = 2 - upto 7.0m wide = 3 - upto 11.0m wide = 4 - upto 14.0m wide = 6	Face Fix 300mm wide - upto 3.5m wide = 2 - upto 6.5m wide = 3 - upto 7.0m wide = 4 - upto 14.0m wide = 7	Class 3 Beaufort 6 Strong breeze, large branches in motion

GUARANTEE

All our patio awnings come with a 5 year guarantee, covering the hardware (metalwork inc folding arms), fabric (excluding valance) and mechanism (motors, controls & sensors). Accessories, including lighting, heating & special brackets come with a 12 month guarantee. Valances and gear boxes including gear eyes and winding handles are not covered under the guarantee. The guarantee does not cover fair wear and tear, misuse of the goods, accidental damage or adverse environmental conditions.

Refer to terms & conditions for full details.



| The best value folding arm awning in the UK

Anguilla

MANUAL

This product can be viewed on:  NBS Source

- Casing:**
- Full cassette
- Fixing Points:**
- At each end
- Brackets:**
- Face fix
 - Top fix (option)
- Fabric:**
- World of Sattler collection (see pages 6-9)
- Hardware:**
- White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt textured
 - Any other RAL colour (option)
- Operation:**
- **Manual via gear box + 1.4m high detachable crank handle**
- Casing Dims:**
- Face Fix - 152mm high x 223mm deep
 - Top Fix - 154mm high x 229mm deep
- Framework:**
- Corrosion resistant, extruded aluminium
- Arms:**
- Twin cable, twin spring tensioned
- Pitch (Angle):**
- 0 - 45 degrees (0cm - 75cm per metre)
- Fabric Width:**
- 210mm less than awning width
- Wind Rating:**
- Class 2 under EN13561 (Beaufort 5 - 24mph, fresh breeze)
- Special Brackets:**
- Spreader plates (see page 11)
 - Cantilever (gutter) brackets (see page 11)
- Extras:**
- Valance (upto 30cm high, straight or loose wave)
 - Bracket covers (to conceal mounting brackets)

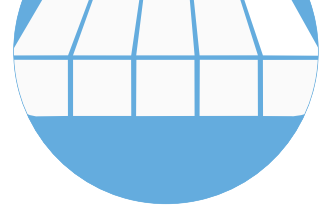
		WIDTH (made to measure)						
PROJECTION (fixed)	AVAILABLE SIZES	2.0m 2 arms 2 bkts	2.5m 2 arms 2 bkts	3.0m 2 arms 2 bkts	3.5m 2 arms 2 bkts	4.0m 2 arms 2 bkts	4.5m 2 arms 2 bkts	5.0m 2 arms 2 bkts
	1.5m	✓ min. width 1.78m	✓	✓	✓	✓	✓	✓
	2.0m	✗	✓ min. width 2.30m	✓	✓	✓	✓	✓
	2.5m	✗	✗	✓ min. width 2.73m	✓	✓	✓	✓
	3.0m	✗	✗	✗	✓ min. width 3.21m	✓	✓	✓

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk
 Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

Our entry-level Anguilla retractable awning is the little brother to the Tortola model and boasts many of the same features, including a slim cassette casing that discreetly conceals the awning when not in use and robust double spring-loaded arms tensioned via twin stainless steel sheathed cables for optimal fabric tension whether part or fully extended. Ideal for mounting where space is limited due to its reduced dimensions and convenient end block construction that only requires a fixing point each end, with easy crank operation.

- Awning weight = c.12kg per metre width (retracting force - load - 370kg per arm)
- Brackets positioned at each end of awning
- Manufacture leadtime = 2 weeks (std hardware colour & brackets)

The most popular folding arm awning in the UK |



Tortola

MOTORISED

- Casing:**
 - Full cassette
- Fixing Points:**
 - At each end
- Brackets:**
 - Face fix
 - Top fix (option)
- Fabric:**
 - World of Sattler collection (see pages 6-9)
- Hardware:**
 - White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor (5m power cable) + remote control** (see pages 4-5)
- Casing Dims:**
 - Face Fix - 152mm high x 223mm deep
 - Top Fix - 154mm high x 229mm deep
- Framework:**
 - Corrosion resistant, extruded aluminium
- Arms:**
 - Twin cable, twin spring tensioned
- Pitch (Angle):**
 - 0 - 45 degrees (0cm - 75cm per metre)
- Fabric Width:**
 - 230mm less than awning width
- Wind Rating:**
 - Class 2 under EN13561 (Beaufort 5 - 24mph, fresh breeze)
- Sensors:**
 - Eolis 3D wirefree wind sensor io (see page 5)
 - Soliris wired sun & wind sensor io (see page 5)
- Special Brackets:**
 - Spreader plates (see page 11)
 - Cantilever (gutter) brackets (see page 11)
- Extras:**
 - Valance (upto 30cm high, straight or loose wave)
 - Bracket covers (to conceal mounting brackets)



This product can be viewed on: NBS Source

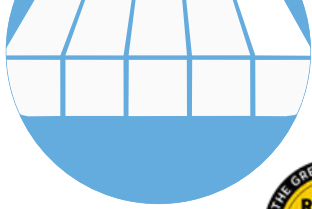


		WIDTH (made to measure)						
PROJECTION (fixed)	AVAILABLE SIZES	2.0m 2 arms 2 bkts	2.5m 2 arms 2 bkts	3.0m 2 arms 2 bkts	3.5m 2 arms 2 bkts	4.0m 2 arms 2 bkts	4.5m 2 arms 2 bkts	5.0m 2 arms 2 bkts
	1.5m	✓ min. width 1.78m	✓	✓	✓	✓	✓	✓
	2.0m	✗	✓ min. width 2.30m	✓	✓	✓	✓	✓
	2.5m	✗	✗	✓ min. width 2.73m	✓	✓	✓	✓
	3.0m	✗	✗	✗	✓ min. width 3.21m	✓	✓	✓
OPTIONS	LED Lighting ²	Full width - mounted beneath awning on façade						
	Heater ³	1 heater	1 heater	1 heater	1 heater	1 heater	2 heaters	2 heaters

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk
 Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

With its streamline cylindrical shape and robust design, the Tortola retractable patio awning is our most popular residential awning. Powerful folding arms featuring twin springs tensioned via double stainless steel sheathed cables keep the fabric taut at every position, whilst the unobtrusive full cassette casing protects the fabric and mechanism when the awning is retracted away. Concealed brackets (optional) provide an aesthetically pleasing finishing touch.

- ² Bermuda lighting track is mounted to the wall beneath the awning. LED strip is warm white (3,500k, 330l/m) fitted with Somfy io dimmable remote receiver.
 - ³ Bahama 2kw infra-red heater is mounted on the wall beneath the awning (min 300mm below). Fitted with Somfy io remote receiver.
- Awning weight = c.12kg per metre width (retracting force - load - 370kg per arm)
 - Brackets positioned at each end of awning
 - Manufacture leadtime = 2 weeks (std hardware colour & brackets)



Cuba



Single Unit
MOTORISED



This product can be viewed on: NBS Source



MADE IN BRITAIN®

| The strongest folding arm awning in the UK

- Casing:**
 - Full cassette
- Fixing Points:**
 - Multiple, across width of awning
- Brackets:**
 - Face fix
- Fabric:**
 - World of Sattler collection (see pages 6-9)
- Hardware:**
 - White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor (5m power cable) + remote control** (see pages 4-5)
- Casing Dims:**
 - Face Fix - 225mm high x 150mm deep
- Framework:**
 - Corrosion resistant, extruded aluminium
- Arms:**
 - Quadruple cable, twin spring tensioned (73mm high)
- Pitch (Angle):**
 - 5 - 38 degrees (10cm - 65cm per metre)
- Fabric Width:**
 - 170mm less than awning width
- Wind Rating:**
 - Class 3 under EN13561 (Beaufort 6 - 31mph, strong breeze)
- Sensors:**
 - Eolis 3D wirefree wind sensor io (see page 5)
 - Soliris wired sun & wind sensor io (see page 5)
- Special Brackets:**
 - Spreader plates (see page 11)
 - Cantilever (gutter) brackets (see page 11)
- Extras:**
 - Valance (upto 30cm high, straight or loose wave)
 - Full width fixing plate (concealed behind awning - to spread fixing load horizontally)

WIDTH (made to measure)

	AVAILABLE SIZES	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m	6.5m	7.0m
		2 arms 2 bkts	2 arms 2 bkts	2 arms 2 bkts	2 arms 3 bkts	2 arms 3 bkts	2 arms 3 bkts	2 arms 3 bkts	3 arms 3 bkts	3 arms 3 bkts	3 arms 4 bkts
PROJECTION (fixed)	1.5m	✓ min. width 2.05m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.0m	✗	✓ min. width 2.57m	✓	✓	✓	✓	✓	✓	✓	✓
	2.5m	✗	✓ min. width 3.00m	✓	✓	✓	✓	✓	✓	✓	✓
	3.0m	✗	✗	✓ min. width 3.49m	✓	✓	✓	✓	✓	✓	✓
	3.5m	✗	✗	✗	✗	✓ min. width 4.03m	✓	✓	✓ min. width 6.00m	✓	✓
	3.75m	✗	✗	✗	✗	✓ min. width 4.25m	✓	✓	✗	✓ min. width 6.39m	✗
OPTIONS	Lighting ²	Full width - mounted to underside awning cassette									
	Heater ³	1 heater	1 heater	1 heater	1 heater	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk
Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

The Cuba awning is the crème de la crème of our range, with its contemporary rectangular flush-fitting full cassette design that neatly conceals the awning when retracted and can be integrated within the façade. The heavy-duty folding arms with drop forged joints, feature quadruple stainless steel sheathed cables tensioning twin springs to ensure optimum fabric tension at every position, suitable for the most demanding of applications. Concealed fixing brackets and screw-less end plates elegantly finish the awning off.

- ² Bermuda lighting track is mounted to the underside of the awning. LED strip is warm white (3,500k, 330lm/m) fitted with Somfy io dimmable remote receiver.
 - ³ Bahama 2kw infra-red heater is mounted on the wall beneath the awning (min 300mm below). Fitted with Somfy io remote receiver.
- Central arm can be left or right handed (left hand default)
 - Awning weight = c.15kg per metre width (retracting force - load - 370kg per arm)
 - Arm and bracket positions can be viewed on pages 32-33
 - Manufacture leadtime = 2 weeks (std hardware colour & brackets)

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

The biggest folding arm awning in the UK |

- Casing:**
 - Full cassette
- Fixing Points:**
 - Multiple, across width of awning
- Brackets:**
 - Face fix
- Fabric:**
 - World of Sattler collection (see pages 6-9)
- Hardware:**
 - White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor (5m power cable) + remote control** (see pages 4-5)
- Casing Dims:**
 - Face Fix - 225mm high x 150mm deep
- Framework:**
 - Corrosion resistant, extruded aluminium
- Arms:**
 - Quadruple cable, twin spring tensioned (73mm high)
- Pitch (Angle):**
 - 5 - 38 degrees (10cm - 65cm per metre)
- Fabric Width:**
 - 170mm less than awning width
- Wind Rating:**
 - Class 3 under EN13561 (Beaufort 6 - 31mph, strong breeze)
- Sensors:**
 - Eolis 3D wirefree wind sensor io (see page 5)
 - Soliris wired sun & wind sensor io (see page 5)
- Special Brackets:**
 - Spreader plates (see page 11)
 - Cantilever bracket (see page 11)
- (1 year guarantee)
- Extras:**
 - Valance (upto 30cm high, straight or loose wave)
 - Full width fixing plate (concealed behind awning - to spread fixing load horizontally)



Coupled Unit
MOTORISED

Cuba



This product can be viewed on: NBS Source



		WIDTH (made to measure)						
PROJECTION (fixed)	AVAILABLE SIZES	8.0m 4 arms 7 bkts	9.0m 4 arms 7 bkts	10.0m 4 arms 7 bkts	11.0m 4 arms 7 bkts	12.0m 6 arms 7 bkts	13.0m 6 arms 7 bkts	14.0m 6 arms 7 bkts
	1.5m	✓	✓	✓	✓	✓	✓	✓
	2.0m	✓	✓	✓	✓	✓	✓	✓
	2.5m	✓	✓	✓	✓	✓	✓	✓
	3.0m	✓ min. width 7.48m	✓	✓	✓	✓	✓	✓
	3.5m	✗	✓ min. width 8.48m	✓	✓	✗	✓ min. width 12.44m	✗
	3.75m	✗	✓ min. width 8.93m	✓	✗	✗	✗	✗
OPTIONS	Lighting ²	Full width - mounted to underside awning cassette						
	Heater ³	2 heaters	3 heaters	3 heaters	3 heaters	3 heaters	4 heaters	4 heaters

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk
Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

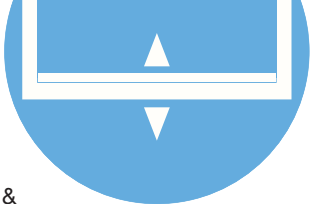
Our Cuba (coupled unit) awning is supplied as two equal width units which are joined together on site. There are two separate fabric covers (one to each unit) with an additional fabric mounted on a jockey roller within the cassette that sits under the two main covers to bridge the gap of 100mm (rain will penetrate) between both main covers, whilst providing an air vent to allow wind underneath to escape.

² Bermuda lighting track is mounted to the underside of the awning. LED strip is warm white (3,500k, 330l/m) fitted with Somfy io dimmable remote receiver.

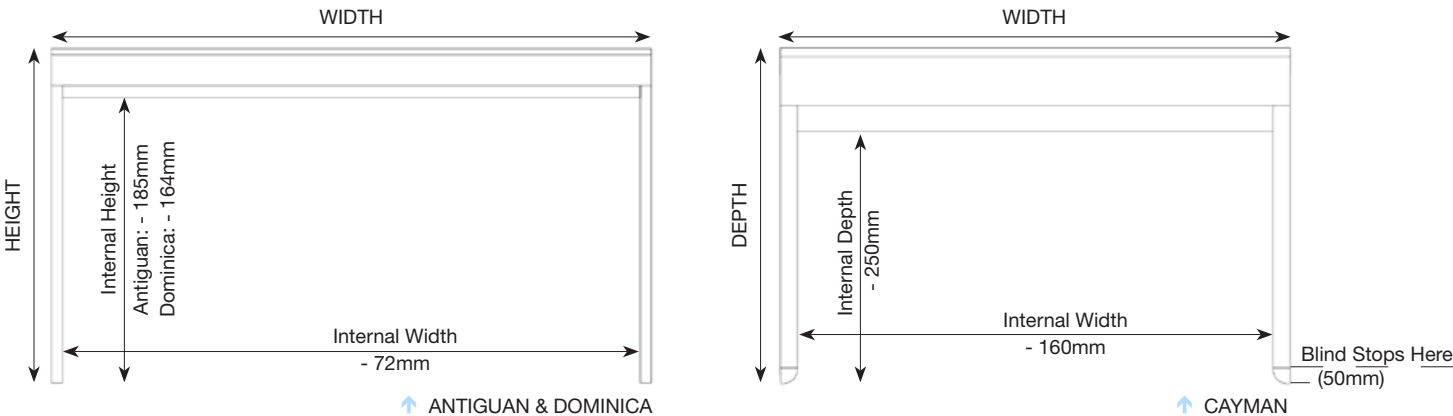
³ Bahama 2kw infra-red heater is mounted on the wall beneath the awning (min 300mm below). Fitted with Somfy io remote receiver.

- Awning weight = c.15kg per metre width (retracting force - load - 370kg per arm)
- Arm and bracket positions can be viewed on pages 34-37
- Manufacture leadtime = 2 weeks (std hardware colour & brackets)

EXTERNAL BLINDS



Our premium UK manufactured external blinds feature superstrong alu frameworks, the most advanced motors & controls and exclusive solar control fabrics with TEXgard easy clean coatings.



- SIZING:**
- ROLLER BLINDS**
- Outside Reveal: Width + 80mm | Height + 185mm + cill (Antiguan only)
 - Inside Reveal: Width - 5mm | Height - 5mm
- ROOF BLINDS**
- Conservatory: Width - outside to outside glazing bars | Depth - top roof to front of guttering
 - Skylight (oversized): Width + 140mm | Depth + 400mm



Our external blinds are fitted with a 3 core 0.75, live, neutral, earth, black 5m UV stabilised cable.

- Upto 4 blinds can be connected to a standard 13amp plug socket / spur.

Overview...



	Model	Casing	Fixing Points	Width from - to	Height / Depth from - to	Surface Area max
	ANTIGUAN Windproof roller blind for windows, doors, pergolas & verandas	Full Cassette 135mm high x 135mm deep	Multi Fix down side guide	0.9m - 6.0m	0.5m - 6.0m	18m ²
	DOMINICA Integrated windproof roller blind designed to be built within the façade	Full Cassette 164mm high x 120mm deep	Multi Fix down side guide	0.9m - 6.0m	0.5m - 3.0m	18m ²
	CAYMAN Tensioned roof blind for conservatories, skylights, verandas & pergolas	Full Cassette 158mm high x 178mm deep	Multi Fix brackets down side guide	1.25m - 5.0m	1.0m - 6.0m	18m ²

IMPORTANT FABRIC INFORMATION

Despite the most advanced manufacturing techniques, rippling and puckering of the material will occur around the seams (where the fabric is joined - Twilight Comfort = horizontal joins every 3.0m / World of Sattler = vertical joins every 1.2m) and at the edges (hems) due to the double thickness of material on these parts 'v' the single thickness of the main panel of fabric. This is a natural characteristic that cannot be avoided, however it will not affect the function or performance of our external blinds. For further information including visuals please refer to the 'Product Properties of External Shading Fabrics' on page 30-31.

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

New

Our Dominica External Roller Blind builds on the features of our popular Antiguan model with one key difference - it is designed to be integrated within the façade. The leadrail retracts completely into the headbox with the headbox accessible from the underside for any maintenance purposes. A choice of face fix or side fix guides ensures the blind can be mounted in all scenarios with the headbox, like the Antiguan model, self supported via a lug attachment at each end that slots within the side guides.

ZIPLOCK™ TECHNOLOGY

This simple, yet highly effective locking mechanism, utilises half a zipper, that is attached to the edge of the fabric. The zipper runs within a pvc extrusion contained in the side guides which subsequently locks the fabric in place at every position - part or fully extended. This locking mechanism provides 3 key advantages:

- Renders the blind windproof upto Beaufort 6 - strong breeze
- Prevents any light shining between the edge of the fabric and side guide
- Acts as an insect screen

PERFECT FOR PERGOLAS AND VERANDAS TOO

Thanks to the fully retracting leadrail and side fix guides, which mirror the depth of the headbox, the Dominica blind aswell as integrating within the facade, is ideal to mount with the aperture formed by the posts and cross beams of all types of pergolas & verandas providing screening from the elements.



INTEGRATED WITHIN THE FAÇADE ↑

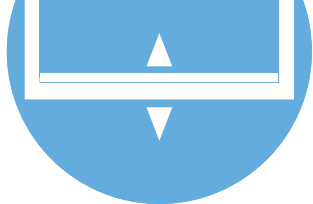
← ZIPLOCK™ TECHNOLOGY

Operation	Hardware	Fabric	Fabric Width	Tensioning	Brackets	Wind Class EN13561
Somfy IO Motorised Remote Control with obstacle detection	- Anthracite Grey RAL 7016 matt textured - White RAL 9016 semi gloss - Any other RAL colour	- Twilight Comfort dimout - World of Sattler blockout (max 3m high)	- 72mm less than blind width, locked into side guides	Gravity Driven with weighted leadrail (4kg per metre width)	Nil - face / side fix through side guides	Class 3 Beaufort 6 Strong breeze, large branches in motion
Somfy IO Motorised Remote Control with obstacle detection	- Anthracite Grey RAL 7016 matt textured - Any other RAL colour	- Twilight Comfort dimout - World of Sattler blockout	- 72mm less than blind width, locked into side guides	Gravity Driven with weighted leadrail (4kg per metre width)	Nil - face / side fix through side guides	Class 3 Beaufort 6 Strong breeze, large branches in motion
Somfy IO Motorised Remote Control	- Anthracite Grey RAL 7016 matt textured - White RAL 9016 semi gloss - Any other RAL colour	- Twilight Comfort dimout - World of Sattler blockout	- 150mm less than blind width, running within side guides	Double coiled spring and hi-tensile dyneema cables	Face or Side Fix per side - upto 2.0m deep = 2 - upto 3.0m deep = 3 - upto 4.0m deep = 4 - upto 5.0m deep = 5 - upto 6.0m deep = 6	Class 2 Beaufort 5 Fresh breeze, small trees begin to sway

GUARANTEE

All our external blinds come with a 5 year guarantee, covering the hardware (metalwork inc tensioning system), fabric and mechanism (motors, controls & sensors). Window canopies come with a 12 month parts guarantee (valance excluded). The guarantee does not cover fair wear and tear, misuse of the goods, accidental damage or adverse environmental conditions.

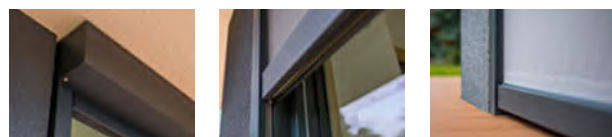
Refer to terms & conditions for full details.



Antiguan MOTORISED



This product can be viewed on:  **NBS Source**



| The original windproof external roller blind

- Casing:**
 - Full cassette
- Fixing Points:**
 - Multiple, down side guides
- Fabric:**
 - Twilight Comfort 'dimout' mesh collection (see p.6-9)
 - World of Sattler 'blockout' collection (see p.6-9) (solids only - max blind size 6m wide x 3m high)
- Hardware:**
 - White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt fine textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor with obstacle detection (5m power cable) + remote control** (see p.4-5)
- Framework:**
 - Corrosion resistant, extruded aluminium
- Framework Dims:**
 - Headbox - 135mm high x 135mm deep
 - Side Guides - 36mm wide x 42mm deep
- Fabric Width:**
 - 72mm less than blind width (locked into side guides)
- Wind Rating:**
 - Class 3 under EN13561 (Beaufort 6 - 31mph, strong breeze)
- Sensors:**
 - Eolis wired wind sensor io (see p.5)
 - Soliris wired sun & wind sensor io (see p.5)
- Extras:**
 - 10mm spacer profiles (to set blind off façade)

		WIDTH (made to measure)									
HEIGHT (made to measure)	AVAILABLE SIZES	1.5m	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m
	1.5m min. height 0.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.0m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3.0m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✗	✗
	4.0m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✗	✗	✗
	4.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✗	✗	✗	✗
	5.0m	✓ min. width 0.9m	✓	✓	✓	✓	✗	✗	✗	✗	✗
	5.5m	✓ min. width 0.9m	✓	✓	✓	✗	✗	✗	✗	✗	✗
	6.0m	✓ min. width 0.9m	✓	✓	✓	✗	✗	✗	✗	✗	✗

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk
 Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

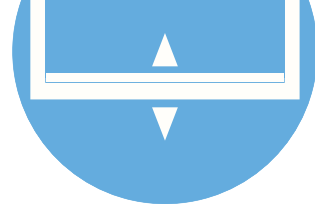
The Antiguan outdoor roller blind with its slim profiles and sleek design is a seamless addition to any vertical glazed area. Zip locking technology built into the side guides physically locks the fabric in place at every position rendering the blind windproof along with preventing any light shining between the edge.

- Blind weight = c.12kg per metre width
- Manufacture leadtime = 2 weeks (std hardware colour)

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

The integrated windproof external roller blind |

- Casing:**
 - Full cassette
- Fixing Points:**
 - Multiple, down side guides
- Fabric:**
 - Twilight Comfort 'dimout' mesh collection (see p.6-9)
 - World of Sattler 'blockout' collection (see p.6-9)
- Hardware:**
 - Anthracite Grey RAL 7016 matt fine textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor with obstacle detection (5m power cable) + remote control (see p.4-5)**
- Framework:**
 - Corrosion resistant, extruded aluminium
- Framework Dims:**
 - Headbox - 164mm high x 120mm deep
 - Face Fix Guides - 36mm wide x 42mm deep
 - Side Fix Guides - 36mm wide x 120mm deep
- Fabric Width:**
 - 72mm less than blind width (locked into side guides)
- Wind Rating:**
 - Class 3 under EN13561 (Beaufort 6 - 31mph, strong breeze)
- Sensors:**
 - Eolis wired wind sensor io (see p.5)
 - Soliris wired sun & wind sensor io (see p.5)
- Extras:**
 - 10mm spacer profiles (to set blind off façade)



MOTORISED **Dominica**



This product can be viewed on: NBS Source

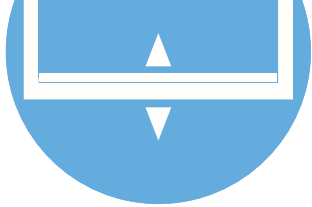


		WIDTH (made to measure)									
HEIGHT (made to measure)	AVAILABLE SIZES	1.5m	2.0m	2.5m	3.0m	3.5m	4.0m	4.5m	5.0m	5.5m	6.0m
	1.5m min. height 0.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.0m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.5m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3.0m	✓ min. width 0.9m	✓	✓	✓	✓	✓	✓	✓	✓	✓

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 Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

The Dominica blind offers the highest level of solar heat and light control to windows and doors along with weather protection to the exposed openings on verandas and pergolas. Designed to be built within the façade, the streamline side guides contain ziplock technology which locks the fabric in place at every position.

- Blind weight = c.12kg per metre width
- Manufacture leadtime = 2 weeks (std hardware colour)



Cayman

MOTORISED



This product can be viewed on:  NBS Source



| The universal tensioned external roof blind

- Casing:**
 - Full cassette
- Fixing Points:**
 - Multiple, along side guides
- Brackets:**
 - Face fix, height adjustable
 - Side fix (option)
- Fabric:**
 - Twilight Comfort 'dimout' mesh collection (see p.6-9)
 - World of Sattler 'blockout' collection (see p.6-9)
- Hardware:**
 - White RAL 9016 semi gloss
 - Anthracite Grey RAL 7016 matt fine textured
 - Any other RAL colour (option)
- Operation:**
 - **Motorised via integral Somfy IO motor (5m power cable) + remote control** (see p.4-5)
- Framework:**
 - Corrosion resistant, extruded aluminium
- Framework Dims:**
 - Cassette - 158mm high x 178mm deep
 - Side Guides - 80mm wide x 67mm high
- Fabric Width:**
 - 150mm less than blind width
- Wind Rating:**
 - Class 2 under EN13561 (Beaufort 5 - 24mph, fresh breeze)
- Sensors:**
 - Eolis wired wind sensor io (see p.5)
 - Soliris wired sun & wind sensor io (see p.5)
- Extras:**
 - Roller fabric support beam (recommended over 3.5m depth)

		WIDTH (made to measure)					
AVAILABLE SIZES		2.5m	3.0m	3.5m	4.0m	4.5m	5.0m
DEPTH (made to measure)	1.5m 2 bkts per side	✓ min. width 1.25m	✓	✓	✓	✓	✓
	2.0m 2 bkts per side	✓ min. width 1.25m	✓	✓	✓	✓	✓
	2.5m 3 bkts per side	✓ min. width 1.25m	✓	✓	✓	✓	✓
	3.0m 3 bkts per side	✓ min. width 1.25m	✓	✓	✓	✓	✓
	3.5m 4 bkts per side	✓ min. width 2.1m	✓	✓	✓	✓	✓
	4.0m 4 bkts per side	✓ min. width 2.1m	✓	✓	✓	✓	✗
	4.5m 5 bkts per side	✓ min. width 2.1m	✓	✓	✓	✗	✗
	5.0m 5 bkts per side	✓ min. width 2.1m	✓	✓	✗	✗	✗
	5.5m 6 bkts per side	✓ min. width 2.1m	✓	✗	✗	✗	✗
	6.0m 6 bkts per side	✓ min. width 2.1m	✓	✗	✗	✗	✗

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Our Cayman outdoor roof blind is able to run on roof glazing of any slope thanks to its concealed tensioning system. Tear-resistant Dyneema cables tension a hi-tensile double coiled spring, which in turn keeps the fabric taut at each position. The leadrail runs within U shaped side channels to ensure the blind runs perfectly square.

- Blind weight = c.15kg per metre width
- Brackets positioned along length of side guides (refer to grid for bracket quantities)
- Manufacture leadtime = 2 weeks (std hardware colour)

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987

The classic window shading canopy |

- Casing:**
- Open
- Fixing Points:**
- Multiple, across width of canopy
- Brackets:**
- Face fix (std)
 - Top fix (option)
- Fabric:**
- World of Sattler collection (see p.6-9)
- Hardware:**
- White RAL 9016 semi gloss
 - Any other RAL colour (option)
- Operation:**
- **Manual via cord & pulley (1.4m length cords)**
- Framework:**
- Corrosion resistant, extruded aluminium
- Framework Dims:**
- 55mm wide x 15mm high
- Wind Rating:**
- Beaufort 5 (24mph, fresh breeze)
- Extras:**
- Stand off adaptor (to set canopy off façade)
 - Additional leg set (to support framework on wider widths - included as std over 4.0m wide)
 - Coverboard (hood & cheeks - adds 50mm to canopy width)

MANUAL **Jamaican**

This product can be viewed on: NBS Source



		WIDTH (made to measure)							
		1.5m 2 bkts	2.0m 2 bkts	2.5m 3 bkts	3.0m 3 bkts	3.5m 4 bkts	4.0m 4 bkts	4.5m 5 bkts	5.0m 5 bkts
PROJECTION (made to measure)	0.55m (min) 3 hoops 2 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓
	0.70m 3 hoops 2 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓
	0.85m 4 hoops 3 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓
	1.00m 4 hoops 3 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓
	1.15m 5 hoops 4 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓
	1.30m 5 hoops 4 panels	✓ min. width 1.22m	✓	✓	✓	✓	✓	✓	✓

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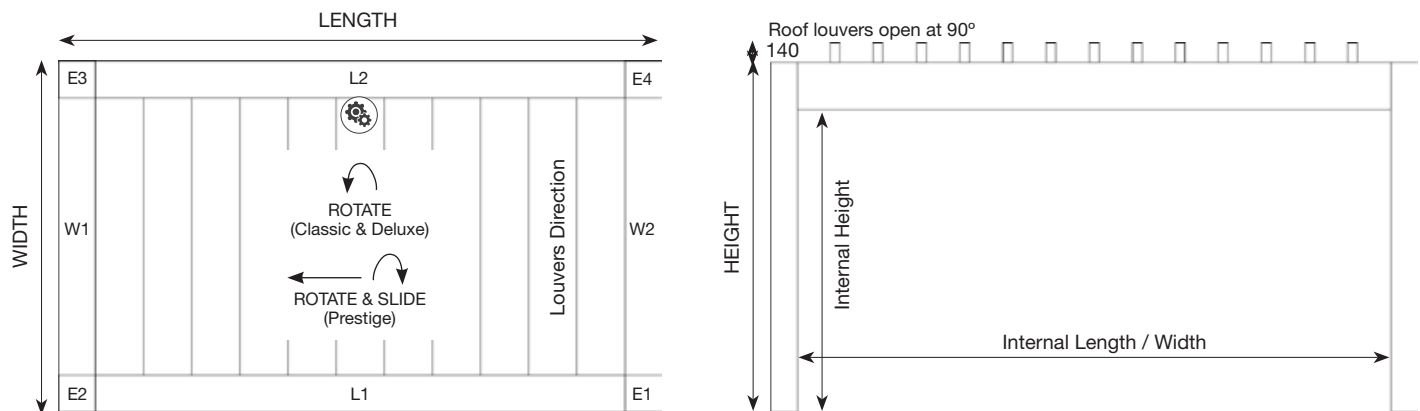
The Jamaican Window Canopy is the traditional window shading canopy suited to residential and commercial shop windows where a cost effective shade solution is sought. The lightweight framework is effortlessly extended and retracted through a simple cord and pulley system for ease.

- Canopy weight = c.10kg per metre width
- Brackets positioned along length of canopy (refer to grid for bracket quantities)
- Manufacture leadtime = 2 weeks (std hardware colour)

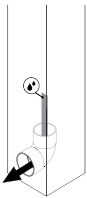
LOUVERED ROOFS



Our premium UK manufactured louvered roofs feature superstrong alu frameworks, advanced motors & controls and exclusive hi-tensile pvc free screen fabrics with self clean effect coatings.



- SIZING:
- WITHOUT SCREENS**
- Internal Width: Overall length less 240mm
 - Internal Height: Overall height less | Classic: -210mm | Deluxe: -230mm | Prestige: -230mm
- WITH SCREENS**
- Internal Width: Overall length less 312mm
 - Internal Height: Overall height less | Classic: -374mm | Deluxe: -230mm | Prestige: -394mm
- DRAINAGE: 1 x drainage point (post) per 15m² (Classic model must drain from both front posts - E1 & E2)
- FOUNDATIONS: Concrete pads recommended (300-500mm square x min 150mm thick, typical dimensions)
- POWER: 1 x standard 13amp plug socket / spur
- 1 louvered roof module complete with LED lighting & screens to all sides
 - each heater requires a dedicated 13amp supply
- Drainage from bottom of nominated posts →



Overview...



Model	Roof Function	Version	Length from - to	Width from - to	Height
CLASSIC POD The UK's most popular Outdoor Living Pod™	Rotate 150°	- Freestanding - Lean to	2.38m - 5.95m	1.5m - 4.5m	upto 3m
DELUXE POD The versatile, original Outdoor Living Pod™	Rotate 150°	- Freestanding - Lean to - Roof only	2.5m - 7.0m (can be linked to cover greater lengths)	1.5m - 4.5m (can be linked to cover greater widths)	upto 3m
PRESTIGE POD The ultimate Outdoor Living Pod™	Rotate 90° + Retract	- Freestanding - Lean to - Roof only	2.59m - 6.0m	1.81m - 4.0m	upto 3m

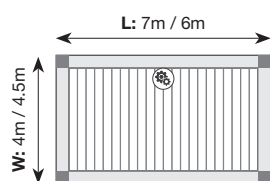
IMPORTANT OPTIONAL SIDE SCREEN FABRIC INFORMATION

Despite the most advanced manufacturing techniques, rippling and puckering of the material will occur around the seams (where the fabric is joined - Twilight Comfort = horizontal joins every 3.0m / World of Sattler = vertical joins every 1.2m) and at the edges (hems) due to the double thickness of material on these parts 'v' the single thickness of the main panel of fabric. This is a natural characteristic that cannot be avoided, however it will not affect the function or performance of our side screens. For further information including visuals please refer to the 'Product Properties of External Shading Fabrics' on page 30-31.

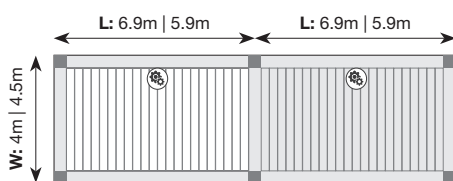
LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987



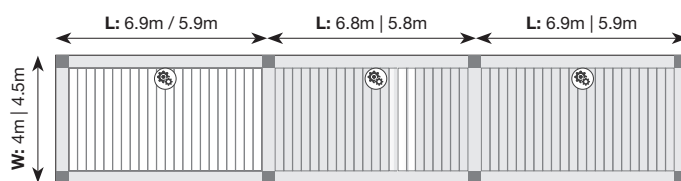
Motor position



- Single module



- 2 modules
coupled along length (6 posts)



- 3 modules
coupled along length (8 posts)

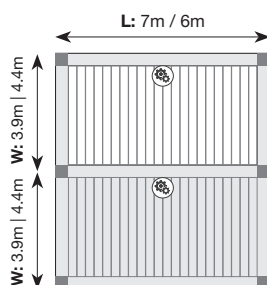
**INTEGRATED SCREENS**

- Deluxe Pod

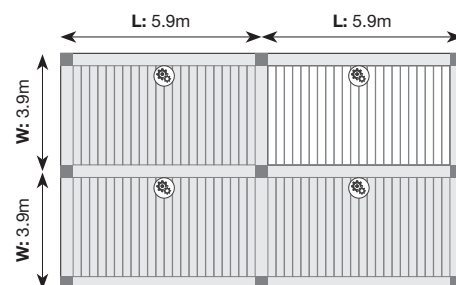
**BUILT UNDER SCREENS**

(adds 164mm to frame height)

- Classic Pod
- Prestige Pod



- 2 modules
coupled along width (6 posts)



- 4 modules (2 x 2)
coupled along length & width (9 posts)

It is also possible to create 'L' and 'U' shape configurations.

Operation	Hardware	Drainage	Wind Class	Screens option	Lighting option	Heating option
Somfy RTS Motorised Remote Control	- Anthracite Grey RAL 7016 matt textured	Both front posts (E1 & E2)	Beaufort 12 Hurricane force	Built under cross beams (Twilight Comfort or World of Sattler fabric)	Integrated in roof louvers (dimnable, warm white, 3,500k, 330l/m)	Mounted to cross beams or posts (Bahama, 2kw infra-red heater)
Somfy RTS Motorised Remote Control	- Any RAL colour (all classic colours)	1 post per 15m ² (ideally front posts E1 & E2)	Beaufort 12 Hurricane force	Integrated in cross beams (Twilight Comfort or World of Sattler fabric)	Integrated in roof louvers or perimeter of cross beams on all sides (dimnable, warm white, 3,500k, 330l/m)	Mounted to cross beams or posts (Bahama, 2kw infra-red heater)
Somfy RTS Motorised Remote Control	- Any RAL colour (all classic colours)	1 post per 15m ² (ideally front posts E1 & E2)	Beaufort 12 Hurricane force	Built under cross beams (Twilight Comfort or World of Sattler fabric)	Integrated in perimeter of cross beam on all sides (dimnable, warm white, 3,500k, 330l/m)	Mounted to cross beams or posts (Bahama, 2kw infra-red heater)

GUARANTEE

All our louvered roofs come with a 5 year guarantee, covering the hardware, fabric (side screens) and mechanism (motors & controls). Accessories, including lighting & heating come with a 12 month guarantee. The guarantee does not cover fair wear and tear, misuse of the goods, accidental damage or adverse environmental conditions.

Refer to terms & conditions for full details.



Classic Pod

MOTORISED



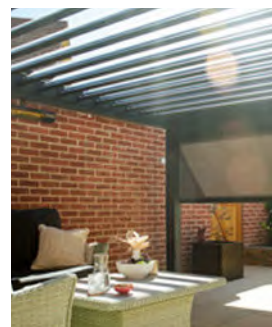
- Integrated guttering



- Superstrong construction



- Water, wind & snow tight roof



- Play with light & shade (louvers)

This product can be viewed on: NBS Source

LENGTH

		LENGTH								
WIDTH (made to measure - 1cm increments)	AVAILABLE SIZES	2.38m	2.59m	2.80m	3.01m	3.22m	3.43m	3.64m	3.85m	4.06m
	2.0m min. width 1.5m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	2.5m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3.0m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	3.5m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4.0m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	4.5m	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Side Screens built under cross beams	✓	✓	✓	✓	✓	✓	✓	✓	✓
OPTIONS	Lighting ²	2 strips	2 strips	2 strips	2 strips	2 strips	2 strips	2 strips	2 strips	3 strips
	Heater ³	1 heater	1 heater	1 heater	1 heater	1 heater	1 heater	1 heater	1 heater	2 heaters

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The minimalist design of the Classic Outdoor Living Pod™ makes this louvered pergola a favourite on the terrace or in the garden. The streamline louvers which form a perfectly aligned watertight roof when closed, rotate up to 150 degrees, stopping at any position, allowing you to enjoy as much light or shade beneath the structure as you desire along with providing ventilation from heat build-up beneath.

- Structure weight = c.25kg per m² + 100kg
- Manufacture leadtime = 2 weeks

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987



of when closed



vers rotate 150°)

H (fixed)



- Streamline design with no visible screws or fixings

| The most popular louvered roof in the UK

- Versions:**
- Freestanding - stand alone (4 posts)
 - Freestanding - abutting / attached to property (4 posts)
 - Lean to - attached to property (2 posts)
- Fixing Points:**
- Through galvanised steel base plates within uprights
- Hardware:**
- Anthracite Grey RAL 7016 matt fine textured
- Operation:**
- **Motorised controlled by Somfy RTS receivers + remote control** (pictured far left)
- Framework:**
- Corrosion resistant, extruded aluminium
- Framework Dims:**
- Cross Beam - 210mm high x 110mm deep
 - Uprights - 120mm wide x 120mm deep (upto 3m high)
 - Louvers - 230mm wide x 43mm high
- Wind Rating:**
- Roof - Beaufort 12 (73+mph, hurricane force)
 - Screens - Beaufort 6 (31mph, strong breeze)
- Screen Fabrics:**
- Twilight Comfort 'dimout' mesh collection (see pages 6-9)
 - World of Sattler 'blockout' collection (see pages 6-9)
- Extras:**
- Alu infill, (upto 410mm wide with 80mm lip)

4.27m	4.48m	4.69m	4.90m	5.11m	5.32m	5.53m	5.74m	5.95m
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
3 strips	3 strips	3 strips	3 strips	3 strips	3 strips	3 strips	3 strips	3 strips
2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters

STRUCTURE
HEIGHT
UPTO 3M
(made to
measure)

Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

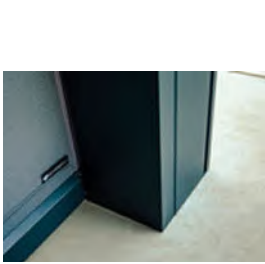
² Lighting is integrated within the roof louvers (2 strips minimum). LED strip is warm white (3,500k, 330l/m) fitted with Somfy RTS dimmable receiver.

³ Bahama 2kw infra-red heater is mounted to the underside of the cross beam or posts (if the structure has a side screen the heater is mounted to the inside of the guttering). Fitted with Somfy RTS remote receiver.



Deluxe Pod

MOTORISED



• Concealed base plates



• Integrated screens provide



• Streamline design



• Precise sun control (louvers)

This product can be viewed on: NBS Source

LENGTH (made to measure)

WIDTH (made to measure - 1cm increments)	*ADD FOR HANDSET	2.75m	3.00m	3.25m	3.50m	3.75m	4.00m	4.25m	4.50m	4.75m
	2.0m min. width 1.5m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
	2.5m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
	3.0m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
	3.5m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
	4.0m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
	4.5m	✓ min. length 2.5m	✓	✓	✓	✓	✓	✓	✓	✓
OPTIONS	Side Screens integrated in cross beams	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Lighting ²	2 strips Perimeter	2 strips Perimeter	2 strips Perimeter	2 strips Perimeter	2 strips Perimeter	2 strips Perimeter	3 strips Perimeter	3 strips Perimeter	3 strips Perimeter
	Heater ³	1 heater	1 heater	1 heater	1 heater	1 heater	1 heater	2 heaters	2 heaters	2 heaters

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk

Freestanding in the garden, lean-to attached to the property or built into an existing structure, with the ability to seamlessly link modules together to cover outdoor spaces of all sizes, the Deluxe Outdoor Living Pod™ is the most versatile of our louvered roof pergolas. Its large 23cm wide waterproof roof louvers rotate through 150 degrees, stopping at the desired position to provide the perfect levels of light or shade on the terrace.

- Structure weight = c.25kg per m² + 100kg
- Manufacture leadtime = 12 weeks

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987



extra protection



s rotate 150°)

asure - 1cm increments)



- Superstrong alu construction with no visible fixings

The original versatile louvered roof

- Versions:**
- Freestanding - stand alone (4 posts)
 - Freestanding - abutting / attached to property (4 posts)
 - Lean to - attached to property (2 posts)
 - Roof only - set within / on existing structure (no posts)
- Fixing Points:**
- Through galvanised steel base plates within uprights
- Hardware:**
- Any RAL colour (all classic colours)
- Operation:**
- **Motorised controlled by Somfy RTS receivers + remote control** (pictured far left)
- Framework:**
- Corrosion resistant, extruded aluminium
- Framework Dims:**
- Cross Beam - 230mm high x 215mm deep
 - Uprights - 120mm wide x 120mm deep
 - Louvers - 230mm wide x 43mm high
- Wind Rating:**
- Roof - Beaufort 12 (73+mph, hurricane force)
 - Screens - Beaufort 6 (31mph, strong breeze)
- Screen Fabrics:**
- Twilight Comfort 'dimout' mesh collection (see pages 6-9)
 - World of Sattler 'blockout' collection (see pages 6-9)
- Extras:**
- Additional upright (inset on cross beam)
 - Alu infill, (upto 410mm wide with 80mm lip)

5.00m	5.25m	5.50m	5.75m	6.00m	6.25m	6.50m	6.75m	7.00m
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✗	✗	✗	✗
✓	✓	✓	✓	✓	✗	✗	✗	✗
3 strips Perimeter	3 strips Perimeter	3 strips Perimeter	3 strips Perimeter	3 strips Perimeter	4 strips Perimeter	4 strips Perimeter	4 strips Perimeter	4 strips Perimeter
2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters

STRUCTURE
HEIGHT
UPTO 3M
(made to
measure)

Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

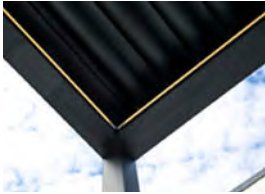
² Lighting is integrated within the roof louvers (2 strips minimum) or inside perimeter of the cross beam on all sides. LED strip is warm white (3,500k, 330l/m) fitted with Somfy RTS dimmable receiver.

³ Bahama 2kw infra-red heater is mounted to the underside of the cross beam or posts. Fitted with Somfy RTS remote receiver.



Prestige Pod

MOTORISED



• Integrated guttering



• Roof louvers stack to just 1cm



• Superstrong construction



• Flexible shade & shelter (louvers open & closed)

This product can be viewed on: NBS Source

LENGTH (made to measure)

AVAILABLE SIZES		2.75m	3.00m	3.25m	3.50m	3.75m	4.00m	4.25m
WIDTH (made to measure - 1cm increments)	2.0m min. width 1.81m	✓ min. length 2.59m	✓	✓	✓	✓	✓	✓
	2.5m	✓ min. length 2.59m	✓	✓	✓	✓	✓	✓
	3.0m	✓ min. length 2.59m	✓	✓	✓	✓	✓	✓
	3.5m	✓ min. length 2.59m	✓	✓	✓	✓	✓	✓
	4.0m	✓ min. length 2.59m	✓	✓	✓	✓	✓	✓
OPTIONS	Side Screens built under cross beams	✓	✓	✓	✓	✓	✓	✓
	Lighting ²	Perimeter	Perimeter	Perimeter	Perimeter	Perimeter	Perimeter	Perimeter
	Heater ³	1 heater	1 heater	1 heater	1 heater	1 heater	1 heater	2 heaters

For product specification assistance please call 01787 882582 or email info@cbsolarshading.co.uk

For those who appreciate limitless outdoor living, the Prestige Outdoor Living Pod™ offers all the freedom possible from a terrace canopy. Thanks to its ingenious design, not only can you play with sun and shade by rotating the louvers through 135 degrees but you can fully retract the pergola roof for the complete open-air alfresco experience and maximum sunlight. And when closed, the louvers lock together providing shelter from the rain and even snow.

- Structure weight = c.25kg per m² + 100kg
- Manufacture leadtime = 12 weeks

LUXURY UK MANUFACTURED EXTERNAL SHADING SINCE 1987



3%



louver rotate 135°)

asure - 1cm increments)



- Streamline design with no visible screws or fixings

The limitless retracting louvered roof

- Versions:**
- Freestanding - stand alone (4 posts)
 - Freestanding - abutting / attached to property (4 posts)
 - Lean to - attached to property (2 posts)
 - Roof only - set within / on existing structure (no posts)
- Fixing Points:**
- Through galvanised steel base plates within uprights
- Hardware:**
- Any RAL colour (all classic colours)
- Operation:**
- **Motorised controlled by Somfy RTS receivers + remote control** (pictured far left)
- Framework:**
- Corrosion resistant, extruded aluminium
- Framework Dims:**
- Cross Beam - 230mm high x 170mm deep
 - Uprights - 120mm wide x 120mm deep
 - Louvers - 230mm wide x 43mm high
- Wind Rating:**
- Roof - Beaufort 12 (73+mph, hurricane force)
 - Screens - Beaufort 6 (31mph, strong breeze)
- Screen Fabrics:**
- Twilight Comfort 'dimout' mesh collection (see pages 6-9)
 - World of Sattler 'blockout' collection (see pages 6-9)
- Extras:**
- Additional upright (inset on cross beam)
 - Alu infill, (upto 410mm wide with 80mm lip)

4.50m	4.75m	5.00m	5.25m	5.50m	5.75m	6.00m
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓
Perimeter	Perimeter	Perimeter	Perimeter	Perimeter	Perimeter	Perimeter
2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters	2 heaters

STRUCTURE
HEIGHT
UPTO 3M
(made to
measure)

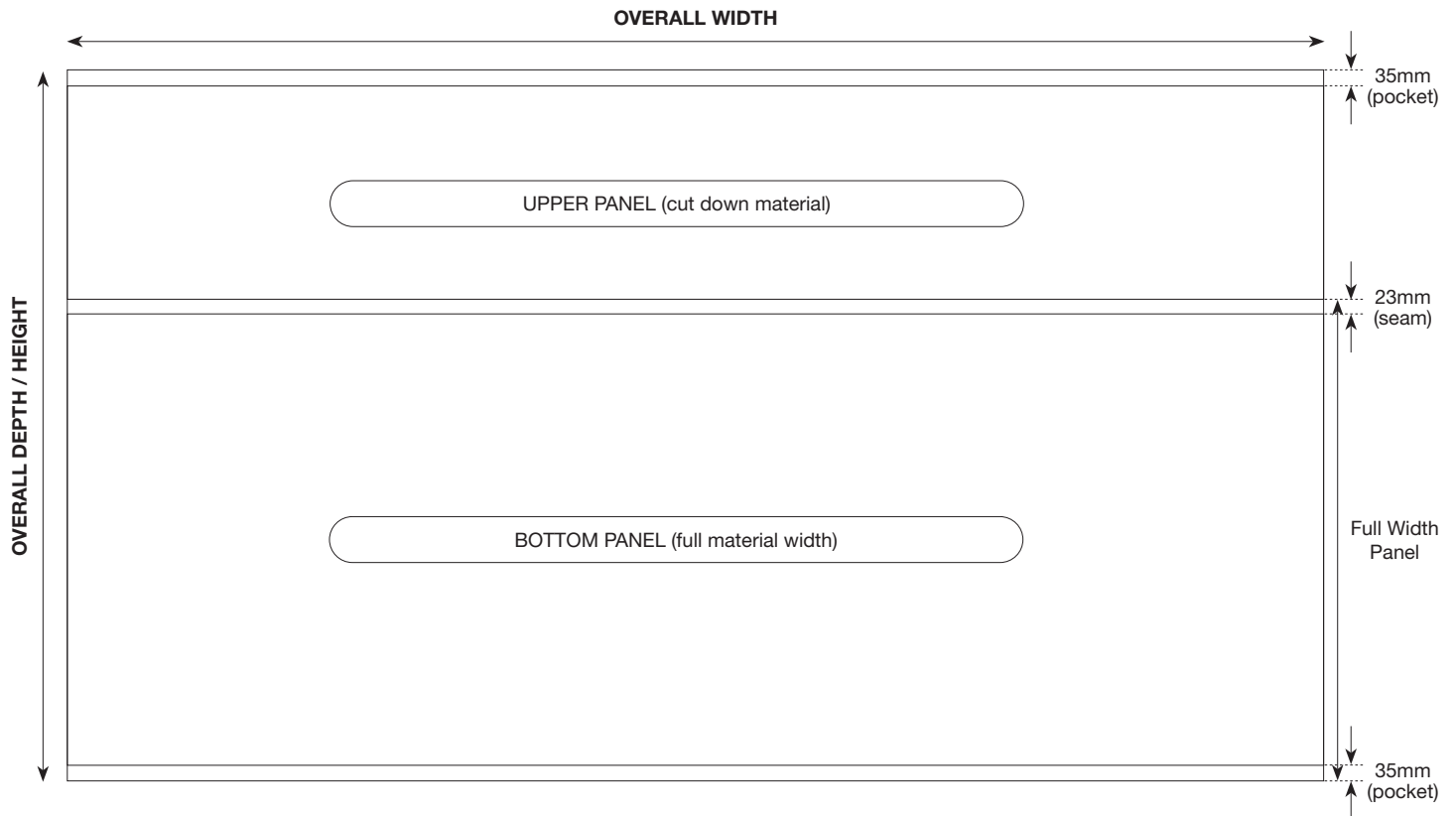
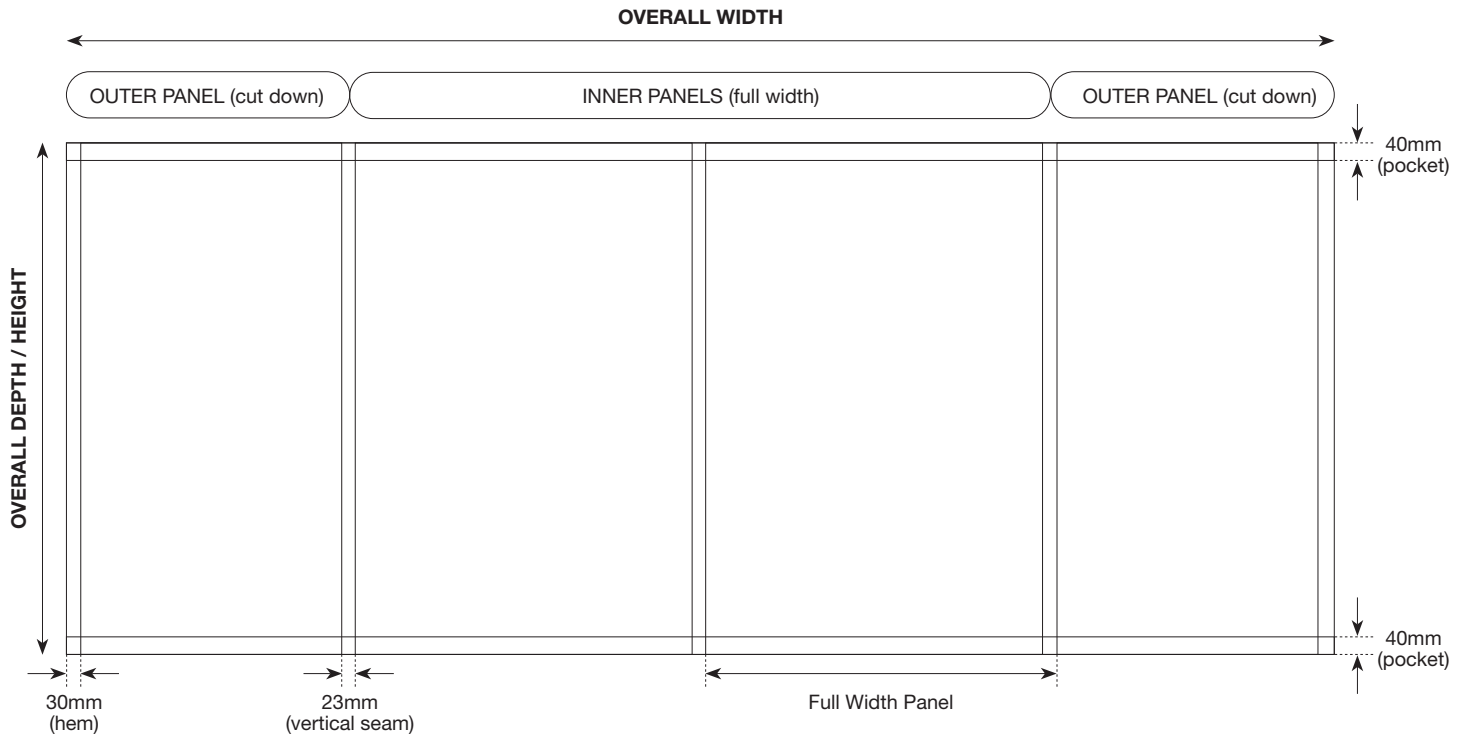
Technical drawings can be downloaded from our website: www.cbsolarshading.co.uk/downloads-area

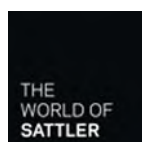
² Lighting is integrated on the inside perimeter of the cross beam on all sides. LED strip is warm white (3,500k, 330l/m) fitted with Somfy RTS dimmable receiver.

³ Bahama 2kw infra-red heater is mounted to the underside of the cross beam or posts (if the structure has a side screen the heater is mounted to the inside of the guttering). Fitted with Somfy RTS remote receiver.



Product Properties of External Shading Fabrics

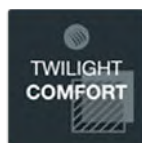




Fabric Type: 100% PAN/CBA (DIN 60 001)
Fabric Width: 1.2m (1,200mm +/-5mm)
Weight: 290 g/m² (DIN EN 12127)
Water Column: 460mm (DIN EN ISO 811)
Light Fastness: min 7/8, white min 4-5/5 (DIN EN ISO 105-B04)
Fire Rating: not certified (inherently non flammable)
Product Use: - Patio Awnings
 - External Blinds
 - Pod Screens

Production: External blind and awning covers are formed by joining a series of panels of fabric together vertically. The inner panels of fabric are always full width (1.2m wide), with the outer panels cut down evenly to provide the exact desired fabric width. This also ensures if the fabric design is a pattern, it is equally balanced from centre out. Fabric panels are joined vertically together by overlapping the fabric (23mm wide seams) stitched together using twin hi-tensile, colour co-ordinated thread and the outer panels are re-inforced by folding the fabric under to create hems (30mm wide - awnings / 110mm wide - roof blinds). A double folded pocket (40mm deep) to the top and bottom of the fabric complete with solid insert allows for attachment of the made up fabric to the product.

To calculate the number of fabric panels, take product width (m), divide by 1.2 and round up - this will provide how many panels there will be.



Fabric Type: Special fabric construction PAN/PES (DIN 60 001)
Fabric Width: 3.0m (3,000mm +/-5mm)
Weight: 235 g/m² (DIN EN 12127)
Water Column: nil (water repellent)
Light Fastness: min 7/8 (DIN EN ISO 105-B04)
Fire Rating: not certified (inherently non flammable)
Product Use: - External Blinds
 - Pod Screens

Production: External blind and screen covers are formed by joining a series of panels of fabric together horizontally. The bottom panel of fabric is always the full width (3.0m wide) of the material, with the additional upper panel of material (where required) cut down to provide the required fabric height / depth. Fabric panels are joined horizontally together by overlapping the fabric (23mm wide seams) stitched together using twin hi-tensile, colour co-ordinated thread. A double folded pocket (35mm deep) to the top and bottom of the fabric complete with solid insert allows for attachment of the made up fabric to the product.

To calculate the number of fabric panels, take product height / depth (m), divide by 3.0 and round to the nearest 0.25 - this will provide how many panels there will be.



CREASE MARKS

Crease marks appear during the manufacturing process and when the fabric is folded. They appear in the form of dark streaks that become visible when viewed against the light, particular in the case of light colours.



WAVINESS AROUND SEAMS & ON PANELS

Waviness may occur along the side hems, around the seams and in the centre of the panels. The material is arranged in a double layer at the seams, resulting in unequal winding of the of the fabric around the rollertube. The tension caused by the folding arms in the case of awnings along with slight deflection in the rollertube and leadrail will further enhance these effects. Waviness also occurs and is exaggerated if for sloping shading they are regularly used in rain showers or heavy rainfall.



SIDE PANEL ELONGATION

Although the outer panel on awning fabric is reinforced with hems (fabric folded over) for strength, they also take the most strain. The spring loaded folded arms which keep the fabric permanently under tension, along with the hems lying on top of each other when rolled and therefore pressing flat, coupled with acceptable wind loading causes the hems to increase in length and the outer panels to sag slightly.

RAIN RESISTANCE

The TEXgard easy clean finish on the fabric helps repel short and light rain, with sloping shading set to the required 14+ degree pitch, however, during long and heavy rain, water may penetrate the fabric.

Cuba (single) Awning Arm Positions | 2.1m - 7.0m

WIDTH																		
																		
PROJECTION (fixed)	2 ARMS	2.1m	2.2m	2.3m	2.4m	2.5m	2.6m	2.7m	2.8m	2.9m	3.0m	3.1m	3.2m	3.3m	3.4m	3.5m	3.6m	3.7m
	1.5m	90mm	130mm	170mm	210mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm
	2.0m	✕	✕	✕	✕	✕	80mm	120mm	160mm	200mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm	250mm
	2.5m	✕	✕	✕	✕	✕	✕	✕	✕	✕	80mm	100mm	140mm	180mm	210mm	250mm	250mm	250mm
	3.0m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	80mm	100mm	120mm
	3.5m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
	3.75m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
																		
		2 ARMS 2 BRACKETS																

WIDTH (made to measure)																	
PROJECTION (fixed)	3 ARMS	5.6m		5.7m		5.8m		5.9m		6.0m		6.1m		6.2m		6.3m	
		Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm
	1.5m	250mm	2,800mm	250mm	2,850mm	250mm	2,900mm	250mm	2,950mm	250mm	3,000mm	250mm	3,050mm	250mm	3,100mm	250mm	3,150mm
	2.0m	250mm	2,800mm	250mm	2,850mm	250mm	2,900mm	250mm	2,950mm	250mm	3,000mm	250mm	3,050mm	250mm	3,100mm	250mm	3,150mm
	2.5m	250mm	2,410mm	250mm	2,510mm	250mm	2,610mm	250mm	2,710mm	250mm	2,810mm	250mm	2,910mm	250mm	3,010mm	250mm	3,110mm
	3.0m	110mm	1,960mm	130mm	2,060mm	140mm	2,160mm	160mm	2,260mm	170mm	2,360mm	190mm	2,460mm	200mm	2,560mm	220mm	2,660mm
	3.5m	✕	✕	✕	✕	✕	✕	✕	✕	80mm	2,040mm	110mm	2,090mm	150mm	2,140mm	180mm	2,190mm
	3.75m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
3 ARMS 3 BRACKETS																	

Measurements are from outside edge of awning to outside edge of arm block (add 40mm for measurement to centre of arm block). Central arms (where applicable) can either be left or right hand positioned (default left hand position if not specified). There MUST be a fixing bracket positioned behind each arm block. Additional fixing brackets should be evenly spaced across the rest of the cassette between the other brackets.

(made to measure)

3.8m	3.9m	4.0m	4.1m	4.2m	4.3m	4.4m	4.5m	4.6m	4.7m	4.8m	4.9m	5.0m	5.1m	5.2m	5.3m	5.4m	5.5m
250mm	250mm	250mm	250mm	250mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	250mm	250mm	250mm	250mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	250mm	250mm	250mm	250mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
150mm	170mm	200mm	220mm	250mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
✕	✕	✕	80mm	100mm	120mm	180mm	250mm	260mm	280mm	300mm	310mm	320mm	340mm	350mm	370mm	380mm	400mm
✕	✕	✕	✕	✕	80mm	110mm	150mm	170mm	200mm	220mm	250mm	270mm	300mm	320mm	350mm	370mm	400mm

2 ARMS | 3 BRACKETS

ure)

6.4m		6.5m		6.6m		6.7m		6.8m		6.9m		7.0m	
Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm	Outside Arms	Central Arm
250mm	3,200mm	250mm	3,250mm	250mm	3,300mm	250mm	3,350mm	250mm	3,400mm	250mm	3,450mm	250mm	3,500mm
250mm	3,200mm	250mm	3,250mm	250mm	3,300mm	250mm	3,350mm	250mm	3,400mm	250mm	3,450mm	250mm	3,500mm
250mm	3,210mm	250mm	3,320mm	250mm	3,420mm	250mm	3,520mm	250mm	3,620mm	250mm	3,720mm	250mm	3,820mm
230mm	2,760mm	250mm	2,850mm	250mm	2,950mm	250mm	3,050mm	250mm	3,150mm	250mm	3,250mm	250mm	3,350mm
210mm	2,240mm	250mm	2,280mm	250mm	2,380mm	250mm	2,490mm	250mm	2,600mm	250mm	2,710mm	250mm	2,820mm
80mm	1,970mm	100mm	2,300mm	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

3 ARMS | 4 BRACKETS



CARIBBEAN
BLINDS UK LTD

Cuba (coupled) Awning Arm Positions | 7.1m - 11.0m

WIDTH (made to measure)																	
PROJECTION (fixed)	4 ARMS	7.1m		7.2m		7.3m		7.4m		7.5m		7.6m		7.7m		7.8m	
		Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms
	1.5m	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm
	2.0m	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm
	2.5m	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm
	3.0m	✕	✕	✕	✕	✕	✕	✕	✕	80mm	310mm	100mm	310mm	120mm	310mm	140mm	310mm
	3.5m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
	3.75m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

7 BRACKETS																	
WIDTH (made to measure)																	
PROJECTION (fixed)	4 ARMS	8.7m		8.8m		8.9m		9.0m		9.1m		9.2m		9.3m		9.4m	
		Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms
	1.5m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	2.0m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	2.5m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	3.0m	300mm	340mm	310mm	340mm	320mm	350mm	330mm	360mm	340mm	370mm	350mm	370mm	370mm	380mm	380mm	390mm
	3.5m	110mm	310mm	130mm	310mm	140mm	310mm	160mm	310mm	180mm	310mm	190mm	310mm	210mm	310mm	230mm	310mm
	3.75m	✕	✕	✕	✕	✕	✕	80mm	310mm	110mm	310mm	140mm	310mm	180mm	310mm	210mm	310mm

7 BRACKETS																	
WIDTH (made to measure)																	
PROJECTION (fixed)	4 ARMS	10.3m		10.4m		10.5m		10.6m		10.7m		10.8m		10.9m		11.0m	
		Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms
	1.5m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	2.0m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	2.5m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	3.0m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	3.5m	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
	3.75m	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
7 BRACKETS																	

Measurements are from outside edge of awning to outside edge of arm block (add 40mm for measurement to centre of arm block). Measurements for central arms are from centre of awning to outside edge of arm block. There MUST be a fixing bracket positioned behind each arm block. Additional fixing brackets should be evenly spaced across the rest of the cassette between the other brackets.

to measure)

7.9m		8.0m		8.1m		8.2m		8.3m		8.4m		8.5m		8.6m	
Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms
250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	250mm	310mm	400mm	400mm	400mm	400mm	400mm	400mm
160mm	310mm	180mm	310mm	200mm	310mm	220mm	310mm	250mm	310mm	260mm	310mm	270mm	320mm	280mm	330mm
✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	80mm	310mm	90mm	310mm
✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

CKETS

to measure)

9.5m		9.6m		9.7m		9.8m		9.9m		10.0m		10.1m		10.2m	
Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms	Outside Arms	Central Arms
400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	310mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm	400mm
250mm	310mm	310mm	310mm	330mm	330mm	360mm	360mm	380mm	380mm	400mm	400mm	✕	✕	✕	✕

CKETS

Cuba (coupled) Awning Arm Positions | 11.1m - 14.0m

WIDTH (made to measure)																
PROJECTION (fixed)	6 ARMS	11.1m			11.2m			11.3m			11.4m			11.5m		
		Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
	1.5m	250mm	2,750mm	310mm	250mm	2,770mm	310mm	250mm	2,800mm	310mm	250mm	2,830mm	310mm	250mm	2,830mm	310mm
	2.0m	250mm	2,750mm	310mm	250mm	2,770mm	310mm	250mm	2,800mm	310mm	250mm	2,830mm	310mm	250mm	2,830mm	310mm
	2.5m	250mm	2,310mm	310mm	250mm	2,360mm	310mm	250mm	2,420mm	310mm	250mm	2,470mm	310mm	250mm	2,530mm	310mm
	3.0m	250mm	1,860mm	310mm	250mm	1,910mm	310mm	250mm	1,965mm	310mm	250mm	2,020mm	310mm	250mm	2,075mm	310mm
	3.5m	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	3.75m	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7 BRACKETS																
WIDTH (made to measure)																
PROJECTION (fixed)	6 ARMS	12.2m			12.3m			12.4m			12.5m			12.6m		
		Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
	1.5m	250mm	3,050mm	310mm	250mm	3,070mm	310mm	250mm	3,100mm	310mm	250mm	3,120mm	310mm	250mm	3,150mm	310mm
	2.0m	250mm	3,050mm	310mm	250mm	3,070mm	310mm	250mm	3,100mm	310mm	250mm	3,120mm	310mm	250mm	3,150mm	310mm
	2.5m	250mm	2,910mm	310mm	250mm	2,960mm	310mm	250mm	3,010mm	310mm	250mm	3,060mm	310mm	250mm	3,110mm	310mm
	3.0m	250mm	2,450mm	310mm	250mm	2,500mm	310mm	250mm	2,550mm	310mm	250mm	2,600mm	310mm	250mm	2,650mm	310mm
	3.5m	X	X	X	X	X	X	X	X	X	250mm	2,030mm	310mm	250mm	2,080mm	310mm
	3.75m	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7 BRACKETS																
WIDTH (made to measure)																
PROJECTION (fixed)	6 ARMS	13.3m			13.4m			13.5m			13.6m			13.7m		
		Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
	1.5m	250mm	3,320mm	400mm	250mm	3,350mm	400mm	250mm	3,370mm	400mm	250mm	3,400mm	400mm	250mm	3,420mm	400mm
	2.0m	250mm	3,320mm	400mm	250mm	3,350mm	400mm	250mm	3,370mm	400mm	250mm	3,400mm	400mm	250mm	3,420mm	400mm
	2.5m	250mm	3,470mm	400mm	250mm	3,520mm	400mm	250mm	3,570mm	400mm	250mm	3,620mm	400mm	250mm	3,670mm	400mm
	3.0m	250mm	3,000mm	400mm	250mm	3,050mm	400mm	250mm	3,100mm	400mm	250mm	3,150mm	400mm	250mm	3,200mm	400mm
	3.5m	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	3.75m	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
7 BRACKETS																

Measurements for outside and inside arms are from outside edge of awning to outside edge of arm block (add 40mm for measurement to centre of arm block). Measurements for central arms are from centre of awning to outside edge of arm block. There MUST be a fixing bracket positioned behind each arm block. Additional fixing brackets should be evenly spaced across the rest of the cassette between the other brackets.

(made to measure)

11.6m		11.7m			11.8m			11.9m			12.0m			12.1m		
Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
2,880mm	310mm	250mm	2,910mm	310mm	250mm	2,930mm	310mm	250mm	2,960mm	310mm	250mm	3,000mm	310mm	250mm	3,020mm	310mm
2,880mm	310mm	250mm	2,910mm	310mm	250mm	2,930mm	310mm	250mm	2,960mm	310mm	250mm	3,000mm	310mm	250mm	3,020mm	310mm
2,580mm	310mm	250mm	2,640mm	310mm	250mm	2,690mm	310mm	250mm	2,750mm	310mm	250mm	2,810mm	310mm	250mm	2,860mm	310mm
2,130mm	310mm	250mm	2,130mm	310mm	250mm	2,235mm	310mm	250mm	2,290mm	310mm	250mm	2,350mm	310mm	250mm	2,400mm	310mm
✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕
✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

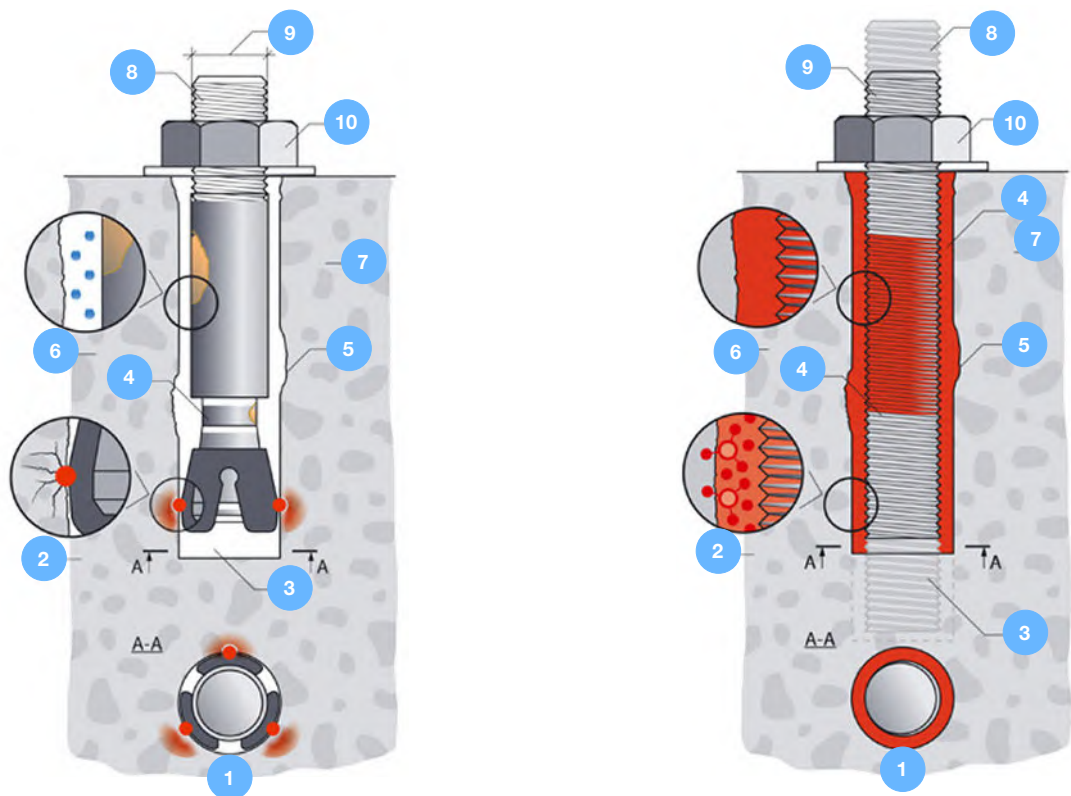
BRACKETS

(made to measure)

12.7m		12.8m			12.9m			13.0m			13.1m			13.2m		
Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
3,170mm	310mm	250mm	3,200mm	310mm	250mm	3,220mm	310mm	250mm	3,250mm	310mm	250mm	3,270mm	400mm	250mm	3,300mm	400mm
3,170mm	310mm	250mm	3,200mm	310mm	250mm	3,220mm	310mm	250mm	3,250mm	310mm	250mm	3,270mm	400mm	250mm	3,300mm	400mm
3,160mm	310mm	250mm	3,210mm	310mm	250mm	3,260mm	310mm	250mm	3,320mm	310mm	250mm	3,370mm	400mm	250mm	3,420mm	400mm
2,700mm	310mm	250mm	2,750mm	310mm	250mm	2,800mm	310mm	250mm	2,850mm	310mm	250mm	2,900mm	400mm	250mm	2,950mm	400mm
2,130mm	310mm	250mm	2,180mm	310mm	250mm	2,230mm	310mm	250mm	2,280mm	310mm	✕	✕	✕	✕	✕	✕
✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕	✕

BRACKETS

13.8m		13.9m			14.0m		
Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms	Outside Arms	Inside Arms	Central Arms
3,450mm	400mm	250mm	3,450mm	400mm	250mm	3,450mm	400mm
3,450mm	400mm	250mm	3,450mm	400mm	250mm	3,450mm	400mm
3,720mm	400mm	250mm	3,720mm	400mm	250mm	3,720mm	400mm
3,250mm	400mm	250mm	3,250mm	400mm	250mm	3,250mm	400mm
✕	✕	✕	✕	✕	✕	✕	✕
✕	✕	✕	✕	✕	✕	✕	✕



MECHANICAL ANCHORS	'V'	RESIN BONDED ANCHORS
Load is concentrated at limited points	1	Load is spread evenly
Uneven load weakens substrate	2	Chemical bond imparts no stress on the substrate
Setting depths are limited	3	Unlimited setting depths
Anchors contain weak points	4	Threaded rod has high stability
Not suited to imperfect holes	5	Resin fills and moulds to imperfect holes
Allows moisture & other contaminants inside	6	Protects from corrosion
Not suitable for softer substrates	7	Suitable for all substrates
Limited lengths & diameters	8 + 9	All sizes of threaded rod can be used
Over-torquing can destroy the anchor	10	No torque stress when installed



RESIN BONDED ANCHORS ENSURE THE SAFEST MOUNTING OF AWNINGS & PERGOLAS INTO MASONRY AND UNCRACKED CONCRETE

CB-AWNFIX® is a high performance, fast curing, epoxy acrylate, styrene free resin, exclusively from Caribbean Blinds for the safe installation of our products into all load bearing brick & block surfaces.



YOUR NOTES

[illegible]

☎ 0344 800 1947

✉ info@cbsolarshading.co.uk

🌐 www.cbsolarshading.co.uk

HEAD OFFICE, FACTORY & SHOWSITE

Woodhall Business Park, Sudbury, Suffolk. CO10 1WH

LONDON SPECIFICATION STUDIO

Studio 3.4, Import Building, 2 Clove Crescent, London. E14 2BE



All Caribbean Blinds products conform to stringent European quality and safety standards



INDUSTRY
PARTNER



Deluxe Pods at The Rows & Vine Restaurant - Ridgeview |



APPENDIX K

APPENDIX L

Lo-Carbon Sentinel Kinetic Plus

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Recognised in SAP PCDB
- Horizontal duct option for space-saving installations
- High airflow, ideal for student accommodation clusters
- Unique folding filter for removal when access is restricted
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer
- 4 fully adjustable speeds and a purge setting



Increased Performance

The Sentinel Kinetic Plus benefits from the latest high efficiency, backward curved impeller design, ensuring the lowest possible energy consumption, ultra quiet operation and an exceptional performance range covering small one bed apartments to the largest of houses.

For scenarios where noise is a critical issue, an Acoustic Enclosure is available to reduce breakout noise and the Acoustic Top Box will reduce in-duct noise at key frequencies.

Care Homes & Student Accommodation

The Sentinel Kinetic Plus is ideal for larger homes and multiple occupancy units such as care homes and student accommodation. Capable of 400m³/hr at 150Pa, the unit can extract from up to ten bathrooms and a communal kitchen while still achieving almost 90% heat recovery. The fully automatic capability of the Kinetic range means that adequate ventilation is always achieved.

The Kinetic's BMS capability is also ideal for those commercial applications where landlords or property managers want to monitor and optimise building performance and maintenance. The Kinetic BMS can provide status information and its self diagnostics can report if any fault is found.

Spigot Options

Spigots may be re-positioned to give horizontal connection or a combination of vertical and horizontal connection.

Optional 180mm/200mm spigots can simplify connection in commercial installations where larger diameter duct work has been used.

Quick Change Filter

As many systems are placed within cupboards the unique filter design folds as you remove it to ensure easy access in restricted spaces.

Integral Humidity Sensor

The integral humidity sensor increases speed in proportion to relative humidity levels, saving energy and reducing noise. The sensor also reacts to small but rapid increases in humidity, even if the normal trigger threshold is not reached. This unique feature ensures adequate ventilation, even for the smallest wet room. The night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature.

Models

Model	Stock Ref
Sentinel Kinetic Plus BS	447938
Sentinel Kinetic Plus Right	443028
Sentinel Kinetic Plus Right with Acoustic Top Box & Enclosure	479538
Sentinel Kinetic Plus Right with Acoustic Top Box	479537
Sentinel Kinetic Plus Right with Acoustic Enclosure	479536
Sentinel Kinetic Plus Left	443028L
Sentinel Kinetic Plus Left with Acoustic Top Box & Enclosure	479541
Sentinel Kinetic Plus Left with Acoustic Top Box	479540
Sentinel Kinetic Plus Left with Acoustic Enclosure	479539

Accessories

Model	Stock Ref
Wired Remote Controller	443283
LED Alarm with 15m cable	448356
Opto-coupler for volt-free BMS connection	447340
ISO 45% Coarse (G3) 2x Filter	403702
ISO ePM10 50% Pollen (M5) 1x Filter	444201
180mm/200mm Spigot Kit (One per pack)	446523
Anti Vibration Mounts	68MP033G
Acoustic Purge Fan	477988
Acoustic Purge Fan XL	479829

SAP PCDB Test Results (Kinetic Plus BS)

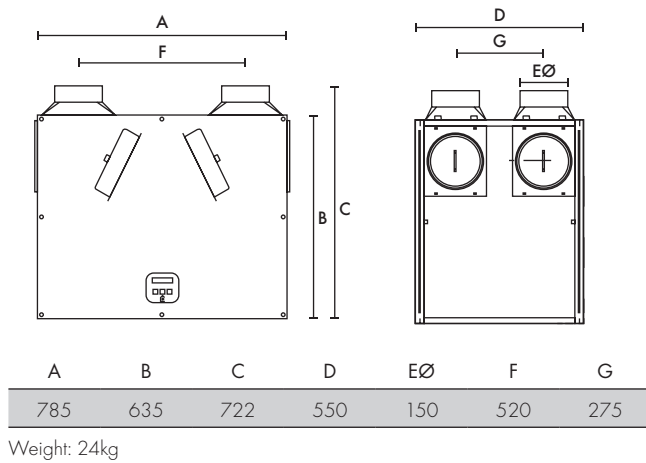
SAP 2009			SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	91	0.51	91	0.42
K+2	91	0.40	91	0.44
K+3	90	0.41	90	0.52
K+4	90	0.45	90	0.63
K+5	90	0.53	90	0.76
K+6	90	0.60	91	0.90
K+7	90	0.70	91	1.05

SEC Class

Model	SEC Class
Kinetic Plus	A+

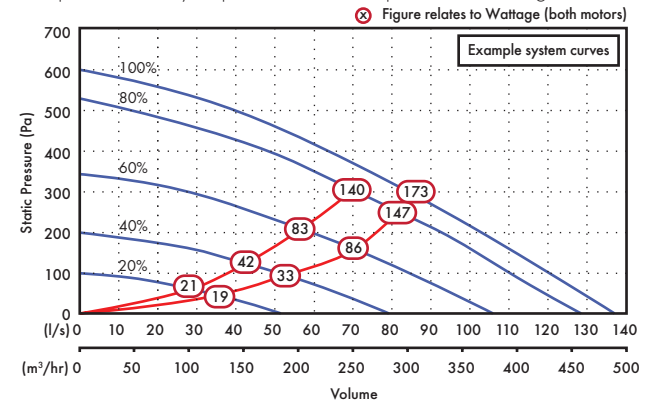
Dimensions (mm)

Unit

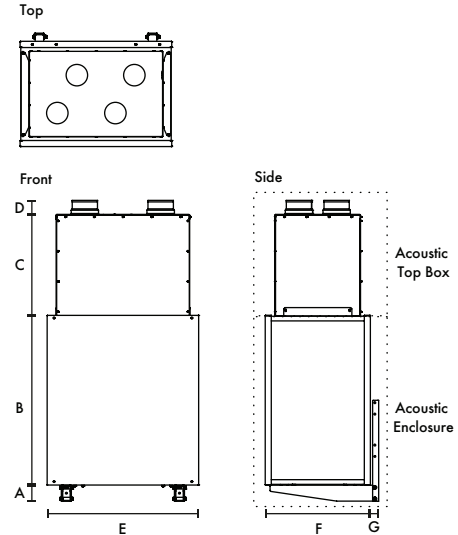


Performance

Fan speeds are fully adjustable within the performance range.



Acoustic Solution



		Acoustic Top Box		Acoustic Enclosure					
A	B	C	D	E	F	G	kg	kg	Spigot
80	733	501	71	855	583	40	17	33	150

Sound Data (Unit only)

Unit setting	Test mode	Octave band, Hz, dB SWL										SPL dB(A)	
		63	125	250	500	1k	2k	4k	8k	LwA	at 3m		
20%	Supply	54.4	60.9	50.6	45.9	34.3	23.6	19.1	24.5	51.3	30.8		
	Extract	48.4	56.7	43.7	35.9	21.4	16	18.7	24.5	42.3	24.8		
	Breakout	42.6	40.2	39.6	38	31.1	24.3	19.4	24.6	35.1	17.6		
40%	Supply	61.6	64.6	58.4	55.5	45.9	37.2	24.7	25.1	58.8	38.3		
	Extract	54.9	62.2	51.5	44.8	32.1	24.1	19.7	24.6	48.8	31.3		
	Breakout	51.1	49.3	48.9	45.9	41.3	35.7	26.7	25.6	44.0	26.5		
60%	Supply	67.5	67.5	73.2	62.4	53.4	47.5	33.5	28.3	69.2	48.7		
	Extract	62.5	61.7	60.1	51.1	39.2	32.1	23.2	24.8	54.0	36.5		
	Breakout	54.9	53	58.4	55.1	49.7	43.9	35.4	31.9	52.8	35.3		
80%	Supply	70.5	71.1	73.8	66.5	58.3	53.2	39.7	33.3	71.3	50.8		
	Extract	68.4	65.9	71.8	55.6	43.6	37.1	27.3	25.5	63.8	46.3		
	Breakout	59.2	56.8	63.6	57.3	54.2	49	41	37.5	56.8	39.3		
100%	Supply	72.8	73.1	75.2	70.4	61.6	56.6	44.2	37.6	73.9	53.4		
	Extract	71.7	69	71.8	57.4	45.7	39.9	30.9	26.6	64.1	46.6		
	Breakout	61.2	58.8	67.9	59.6	56.7	52.2	44.4	41.2	60.1	42.6		

Sound Data (Unit with Acoustic Solution)

Unit setting	Test mode	Octave band, Hz, dB SWL										SPL dB(A)	
		63	125	250	500	1k	2k	4k	8k	LwA	at 3m		
20%	Supply	55.7	49.2	36.6	23.6	17.4	14.9	17.8	23.3	36.1	18.6		
	Extract	51.4	42.4	30.3	20.9	16.8	14.9	17.8	23.3	30.8	13.3		
	Breakout	37.4	39.7	30.0	22.7	15.6	14.0	17.9	23.3	28.4	7.9		
40%	Supply	59.7	59.7	45.5	32.2	22.2	15.2	17.9	23.3	45.1	27.6		
	Extract	54.8	55.0	38.0	26.8	18.1	14.9	17.8	23.3	40.2	22.7		
	Breakout	45.7	48.5	39.9	32.8	24.2	17.5	18.0	23.4	36.8	16.3		
60%	Supply	66.1	61.9	53.6	41.0	29.8	18.3	18.0	23.3	49.5	32.0		
	Extract	60.6	55.9	48.4	34.9	23.8	16.3	17.9	23.3	43.8	26.3		
	Breakout	51.1	51.0	52.4	40.9	33.2	26.1	19.7	23.4	44.5	24.0		
80%	Supply	70.0	67.6	68.5	48.1	37.9	25.3	19.4	23.6	60.7	43.2		
	Extract	65.4	59.7	57.2	41.6	31.3	21.8	19.2	23.4	50.4	32.9		
	Breakout	55.6	55.6	57.9	47.9	40.4	34.3	26.1	23.7	51.3	30.8		
100%	Supply	72.1	70.1	66.4	51.6	41.9	29.7	21.7	24.0	60.0	42.5		
	Extract	68.2	62.4	60.6	45.5	36.0	26.6	21.7	23.6	53.8	36.3		
	Breakout	57.6	58.8	63.3	51.0	44.2	38.5	31.0	24.9	56.3	35.8		

Tested according to BS EN 13141-7:2010. Breakout quoted spherical. Supply and Extract quoted hemispherical. For in-duct data, end reflections are added based on the spigot size of the unit.

Consultant's Specification

Operation

The supply and extract ventilation unit shall be as Sentinel Kinetic Plus as manufactured by Vent-Axia and shall be sized as indicated on the drawings and shall be in accordance with the particular specification.

Supply air to the room shall be pre-heated by the extract air via the integrated composite plastic counterflow heat recovery cell. The Sentinel Kinetic Plus shall automatically vary the ventilation rate via EC/DC motors, as it receives signals from one of the optional interconnected sensors.

When a signal is received, the fans shall either vary their speed proportionally or on a trickle and boost principle.

The unit shall have the facility to commission the supply and extract fans individually via in-built minimum and maximum speed adjustment, or alternative wired remote control unit. The fans themselves shall have independent, infinitely variable speed control.

Unit Specification

The unit shall be manufactured with an ABS outer case construction, and incorporate a reversible core to allow for left or right hand mounting.

The unit shall have a high efficiency composite plastic counterflow heat exchanger, supply and extract filters, automatic summer bypass, integral minimum and maximum infinitely variable speed controls with fascia mounted failure indication.

The unit shall have low energy, high efficiency EC/DC fan/motor assemblies with sealed for life bearings. The impellers shall be high efficiency backward curved centrifugal type.

The unit shall have a heat exchanger cell with a thermal efficiency of up to 92% when tested to EN 308. This shall be protected by ISO 45% Coarse (G3) grade synthetic filters on supply and extract. Complete with a condensate drip tray and drain connection.

To reduce breakout noise, the MVHR unit shall be provided with an Acoustic Enclosure of steel construction lined with class 'O' acoustic foam. To reduce in-duct noise, the top of the MVHR shall be fitted with an Acoustic Top Box to provide attenuation to the 4 ducts of the unit. This Acoustic Top Box shall be of steel construction lined with acoustic class 'O' foam with the MVHR spigots linked to the Top Box via 4 separate attenuated ducts. The acoustic enclosure and top box shall each be independently tested for noise to BS EN 13141-7.

The unit shall be constructed with a removable Core allowing full maintenance access. The removable Core shall provide access to the following:

- ✓ Supply and extract filter
- ✓ Heat exchanger
- ✓ Access to the electrical connections

Access shall be provided for wiring termination and setup/commissioning. The backlit LCD user interface therein may be duplicated for remote mounting if required.

Units shall be as manufactured by Vent-Axia Ltd.

The MVHR unit shall incorporate an Expanded Polystyrene (EPS) inner chassis with custom motor and impeller mounting features. The inner chassis will assist in reducing noise and act as a large anti-vibration mount to avoid transmission through to the back mounting plate or the base of the unit.

The MVHR unit shall be tested to ensure it meets the maximum allowable vibration of no more than 1 mm/s, measured on the unit wall fixing points.

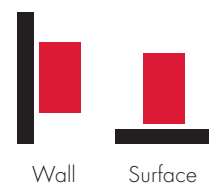
Sound tested to BS EN 13141-7:2010

Standard Controls

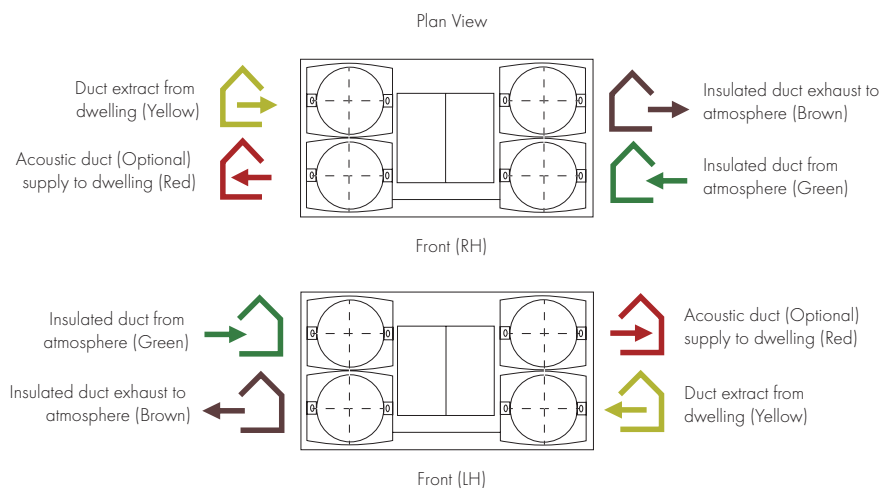
All Sentinel Kinetic units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer:

- ✓ Integral infinitely variable fan speed control on supply and extract
- ✓ Integral min/max ventilation control/set point
- ✓ Integral BMS input/output interfaces – control and status indication
- ✓ Heating interlocks
- ✓ 0-10V proportional speed adjustment
- ✓ Volt free contacts
- ✓ 24V sensor supply
- ✓ Integral on/off or trickle boost function from remote switch, e.g. PIR occupancy detector
- ✓ Fully automatic summer bypass
- ✓ Switched Live input with adjustable 'delay-on' feature
- ✓ Fan failure or component failure indicated via individual fault code display
- ✓ Running time counter
- ✓ Control panel PIN number lock
- ✓ Automatic frost protection effective to -20°C
- ✓ The unit shall incorporate an integral humidity sensor with the following features:
 - Ambient Response; Raises the humidity trigger point as dwelling temperature reduces
 - Rapid Response: Monitors the rate of change in humidity and triggers increased airflow even if the humidity trigger threshold is not reached
 - Proportional Response; Incrementally increases the fan speed to reduce noise and reduce energy consumption
- ✓ The unit shall be controlled by the 'Sentinel' control devices (enablers and sensors) as detailed in the schedule or on the drawings.
- ✓ Tool free filter access

Mounting Option

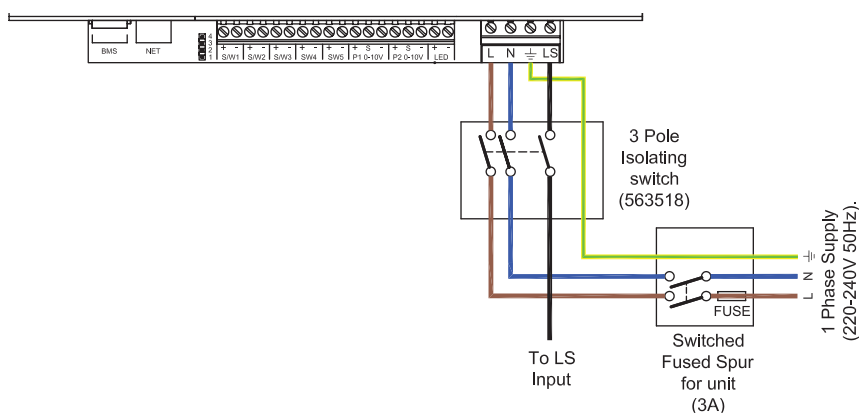


Airflow Direction

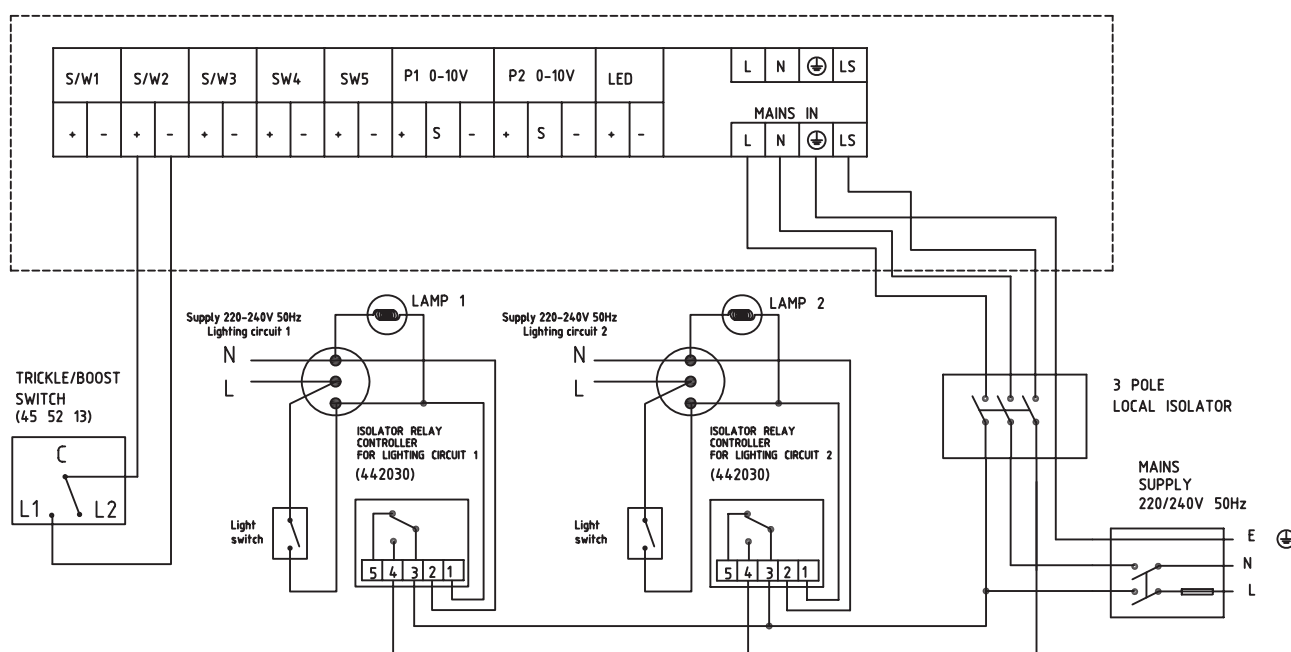


Electrical Connection

Please note: Electrical connection should be carried out by an appropriately qualified person and in accordance with current wiring regulations.



Trickle to Boost by two lighting circuits or Trickle/Boost Switch

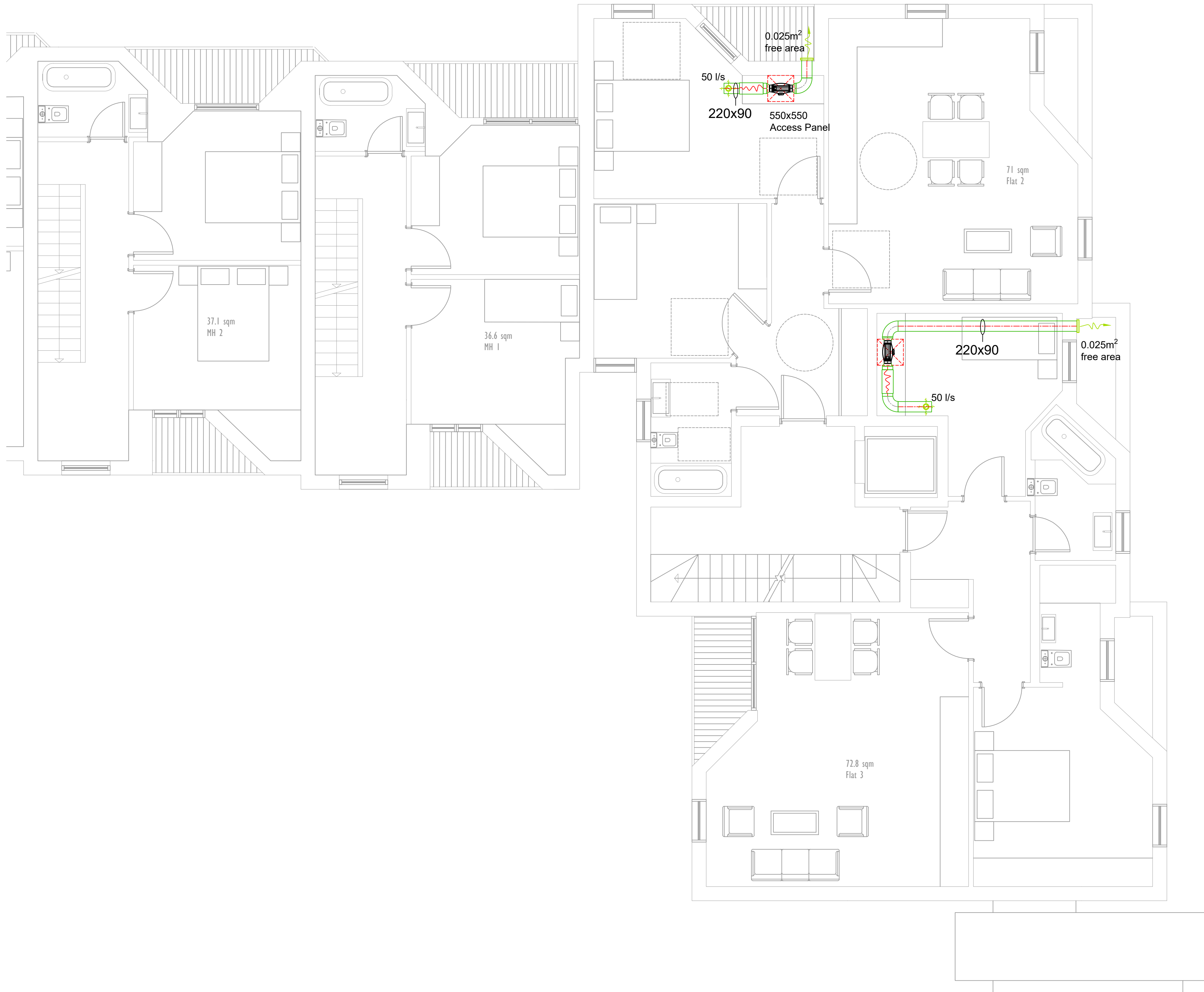


APPENDIX M

GENERAL NOTES:

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TB - To Below	LSV - Lock Shield Valve
FA - From Above	IV - Isolation Valve
FB - From Below	STR - Strainer
SS - Stub Stack	HTG - Heating
AAV - Air Admittance Valve	CW - Cold Water
SVP - Soil Vent Pipe	TD - To Danish
DCV - Double Check Valve	F - Flow
SV - Solenoid Valve	R - Return
NRV - Non Return Valve	
PRV - Pressure Relief Valve	
Pipes Hidden H/L	-----
Pipes Hidden L/L	-----
Pipes Exposed H/L	-----
Pipes Solid L/L	-----

[illegible]

CARNELL
WARREN

A S S O C I A T E S

DUKE HOUSE, DUKE STREET, WOKING, GU215BA
PROJECTS@CARNELLWARREN.CO.UK 01483 730995

PROJECT Hornsey Police Station

TITLE

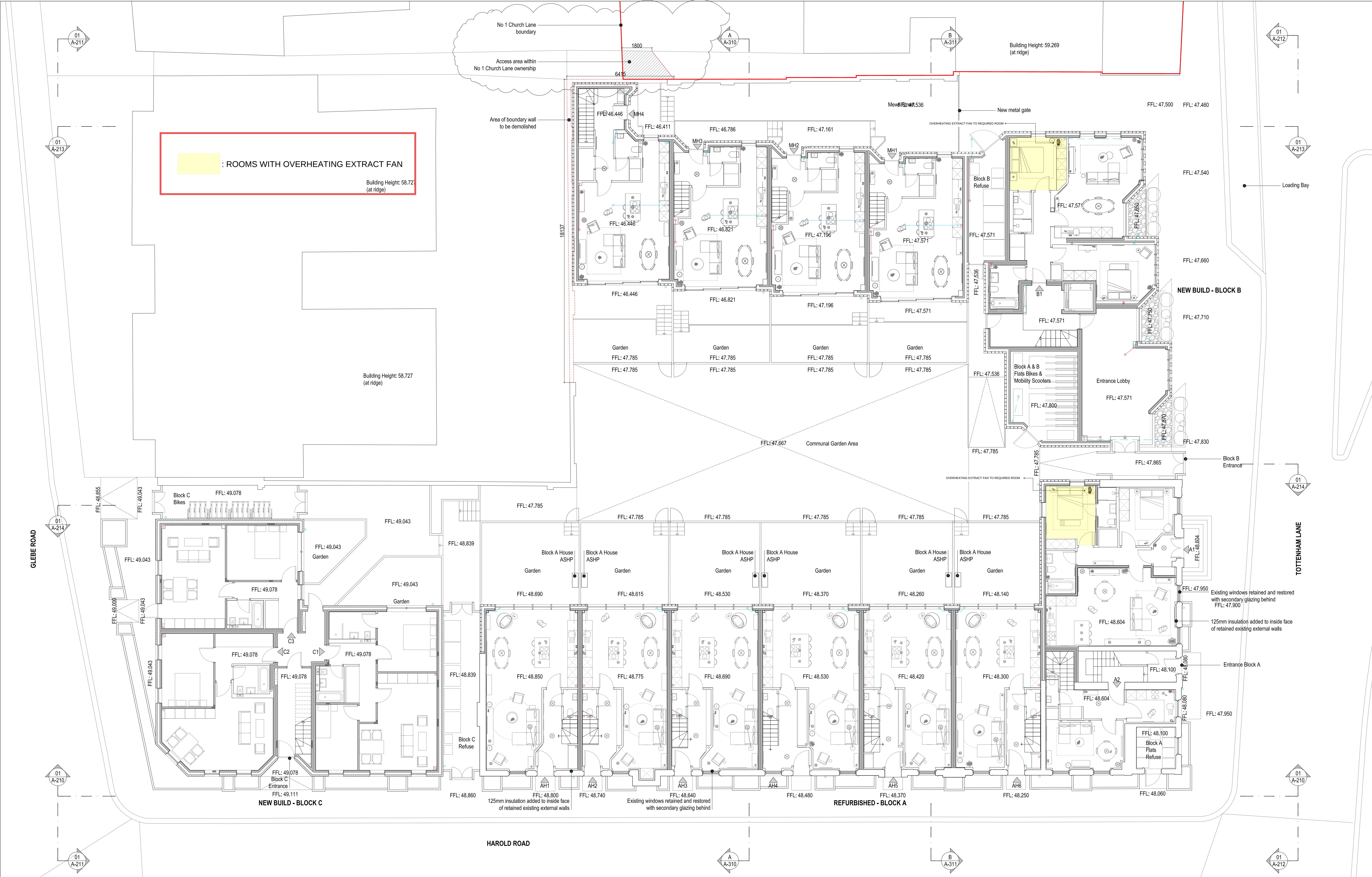
Typical Flats Ventilation Layout

CLIENT
Dixon8 Limited

SCALE @ A1 DATE June '23 DRN AP

DRAWING NO.	REV.
1982/M/201	*

APPENDIX N



DISCLAIMER:

All dimensions are in millimetres. Do not scale from this drawing. All dimensions and conditions are to be checked and confirmed on site by the contractor. The contractor should inform the Architect of any discrepancies before proceeding with the work. This drawing is to be read in conjunction with all other relevant documentation including that produced by other consultants, subcontractors and suppliers.

All elements of work and materials are to comply with the Building Regulations, British Standards, good industry practice and the recommendations of material and component manufacturers. All products are to be suitable for their purpose. The contractor is to install all products where noted in accordance with manufacturers recommendations, specifications and inform the Architect of any discrepancies or changes in the specification before proceeding with the work.

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NOTES:
- RWP
- SVP
- SVP From Above

North

SCALE
BAR 1:100

0 1 2 5 10m

05	05/04/24	Structural amendments following SE drawings
04	28/03/24	FFL's updated. Ownership line for 1 Church Lane & access added
03	02/02/24	Boundary wall demolition added
02	27/11/23	Ground Floor FFL's added
01	23/11/23	Technical information added to Block plans
00	20/09/23	Issued to Consultants

No.	Date	Issues and Revisions
-----	------	----------------------

ES	CB	11	01/08/24	1 Church Lane Access Amended
ES	CB	10	24/07/24	Levels added to context
ES	CB	09	24/07/24	Issued to Council Design Amendments
ES	CB	08	17/06/24	Amendments to Block B lift shaft
ES	CB	07	23/05/24	Issued to Party Wall Surveyor
ES	CB	06	13/05/24	Issued For Construction. Levels amended as bubbled

By	Check	No.	Date	Issues and Revisions
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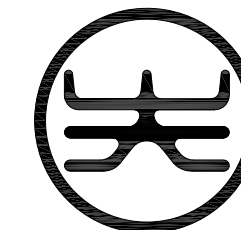
ES	CB	11	01/08/24	1 Church Lane Access Amended
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ES	CB	09	24/07/24	Issued to Council Design Amendments
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By	Check	No.	Date	Issues and Revisions
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ARCHANAÆUM

Co No: 10498892

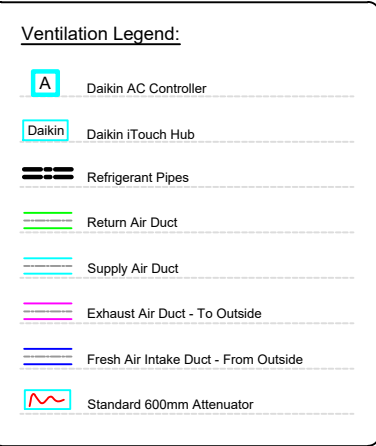
www.archanaeum.com



Project Name: HORNSEY POLICE STATION
Project Number: 044
Status: CONSTRUCTION
Description: PROPOSED GROUND FLOOR PLAN
Scale: 1:100 @ A1, 1:200 @ A3

Drawing Number: 044 A-110C

Revision: 11



OVERHEATING EXTRACT
FAN TO REQUIRED ROOMS

KITCHEN EXTRACT
THROUGH AIRBRICK

EXHAUST AIR THROUGH
AIRBRICK

INTAKE AIR THROUGH
AIRBRICK

MVHR AS VECTAIRE EVO250DC
750W x 650D x 250H

ALL DUCT WORK IN
ENTRANCE HALL TO BE
FIRE RATED

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TB - To Below
FA - From Above
FB - From Below
SS - Stub Stack
AAV - Air Admittance Valve
SVP - Soil Vent Pipe
DCV - Double Check Valve
SV - Solenoid Valve
NRV - Non Return Valve
PRV - Pressure Relief Valve

NRV - Non Return Valve
S/C - Stop Cock
C/V - Control Valve
DRV - Double Regulating Valve
LSV - Lock Shield Valve
IV - Isolation Valve
STR - Strainer
HTG - Heating
CW - Cold Water
TD - Tundish
F - Flow
R - Return

Pipes Hidden H/L -----
Pipes Hidden L/L -----
Pipes Exposed H/L -----
Pipes Solid L/L -----

T2	MVHR Unit and ductwork updated.	05/08/2024
T1	Architects layout updated.	23/05/2024
T0	TENDER ISSUE	19/12/2023
REV	MODIFICATIONS	DATE

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WARREN

ASSOCIATES

DUKE HOUSE, DUKE STREET, WOKING, GU215BA
PROJECTS@CARNELLWARREN.CO.UK 01483 730995

PROJECT
**HORNSEY POLICE
STATION**

TITLE
**BLOCK B
FLAT B2
VENTILATION**

CLIENT
DIXON8 LIMITED

SCALE @ A1
1:50

DATE
DEC '23

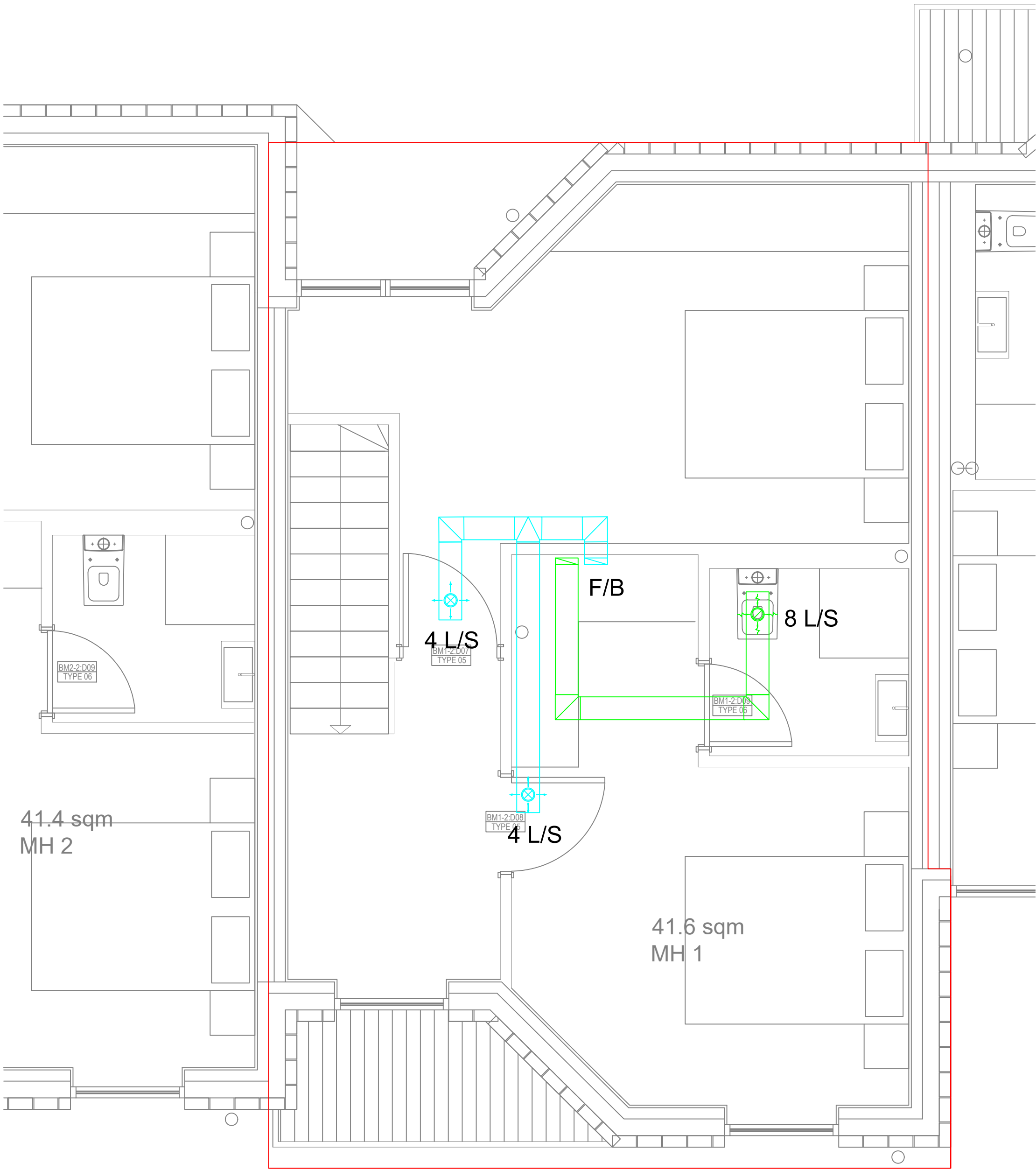
DRN
JK

DRAWING NO.
1982/M/201F

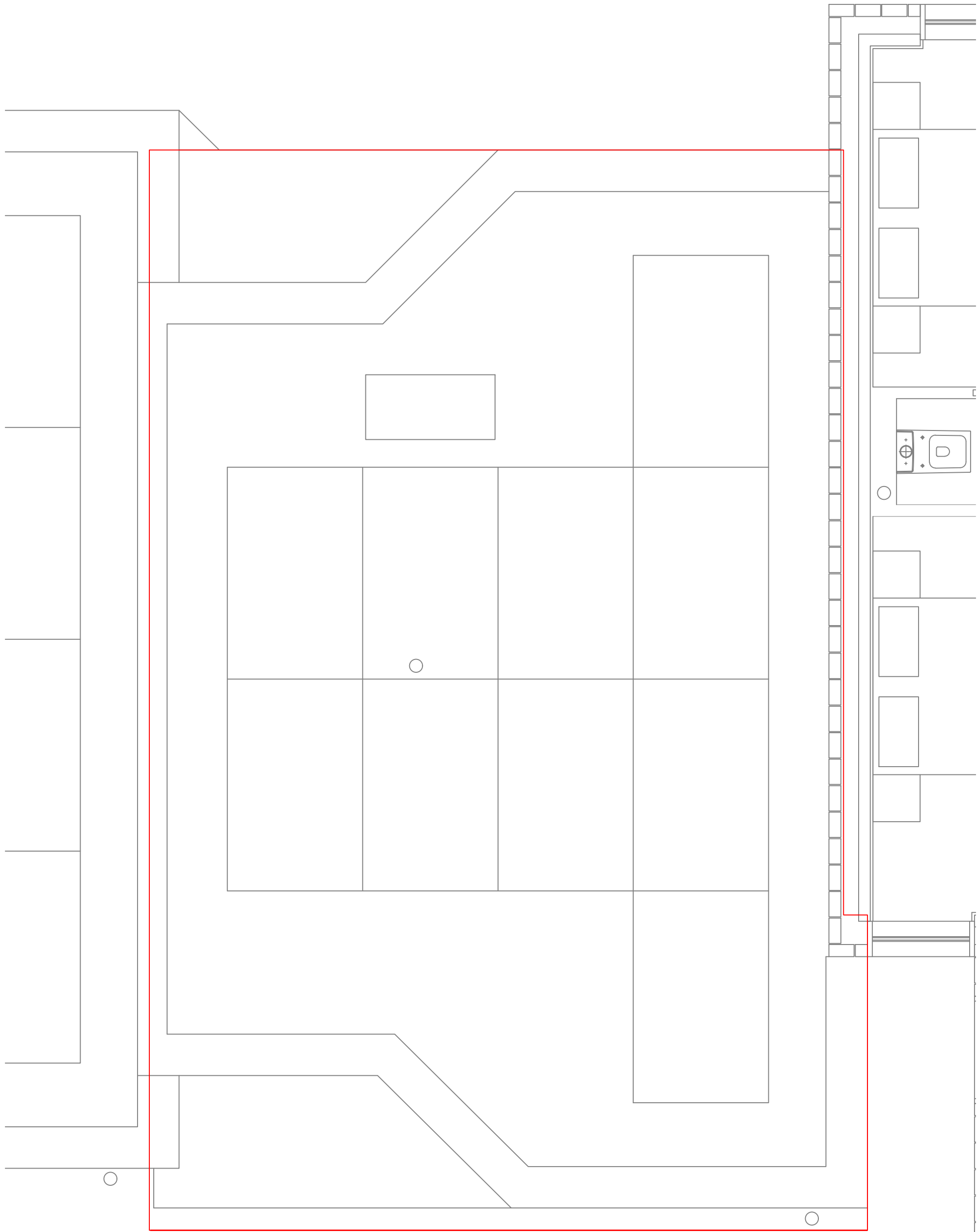
REV.
T2

Ventilation Legend:

- Dahkin AC Controller
- Dahkin Touch Hub
- Refrigerant Pipes
- Return Air Duct
- Supply Air Duct
- Exhaust Air Duct - To Outside
- Fresh Air Intake Duct - From Outside
- Standard 600mm Attenuator



SECOND FLOOR



ROOF

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DCV - Double Check Valve	F - Flow
SV - Solenoid Valve	R - Return
NRV - Non Return Valve	
PRV - Pressure Relief Valve	
Pipes Hidden H/L	-----
Pipes Hidden L/L	-----
Pipes Exposed H/L	-----
Pipes Solid L/L	-----

T3	MVHR relocated.	07/08/2024
T2	Architect layout updated.	23/05/2024
T1	Architects comments added.	14/03/2024
T0	TENDER ISSUE	19/12/2023
REV	MODIFICATIONS	DATE

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WARREN

ASSOCIATES

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PROJECTS@CARNELLWARREN.CO.UK 01483 730995

PROJECT
HORNSEY POLICE
STATION

TITLE
MEWS HOUSE 1
GROUND FLOOR
VENTILATION

CLIENT
DIXON8 LIMITED

SCALE @ A1
NTS

DATE
DEC '23

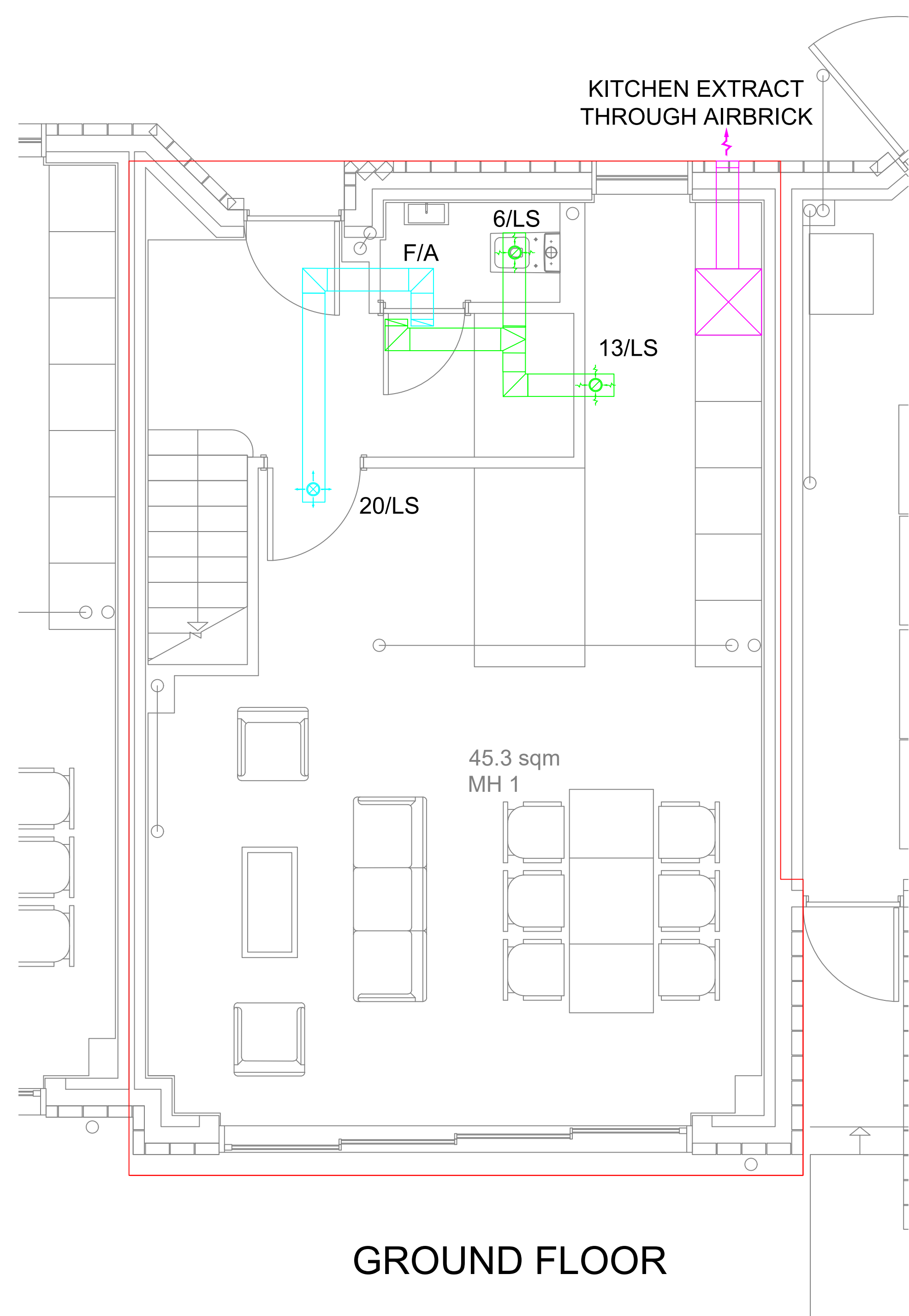
DRN
JK

DRAWING NO.
1982/M/203H

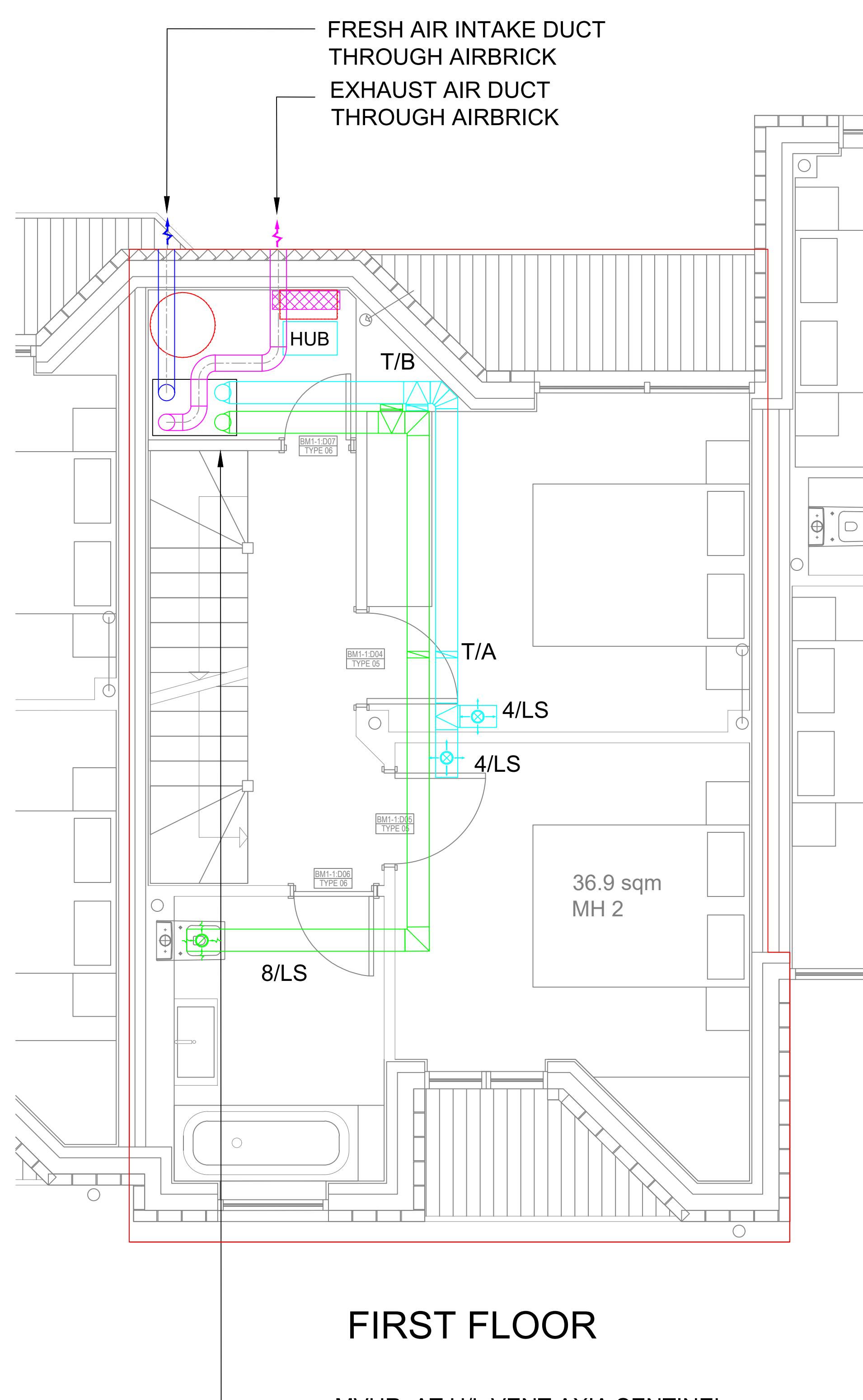
REV.
T3

Ventilation Legend:

- Daikin AC Controller
- Daikin Touch Hub
- Refrigerant Pipes
- Return Air Duct
- Supply Air Duct
- Exhaust Air Duct - To Outside
- Fresh Air Intake Duct - From Outside
- Standard 600mm Attenuator



GROUND FLOOR



FIRST FLOOR

MVHR AT H/L VENT AXIA SENTINEL
KINETIC PLUS
630H x 520W x 776L
EXHAUST & SUPPLY FROM ROOF

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SV - Solenoid Valve	R - Return
NRV - Non Return Valve	
PRV - Pressure Relief Valve	
Pipes Hidden H/L	-----
Pipes Hidden L/L	-----
Pipes Exposed H/L	-----
Pipes Solid L/L	-----

T2	MVHR relocated.	23/05/2024
T1	Architect layout updated.	23/05/2024
T0	TENDER ISSUE	19/12/2023
REV	MODIFICATIONS	DATE

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PROJECTS@CARNELLWARREN.CO.UK 01483 730995

PROJECT
HORNSEY POLICE
STATION

TITLE
MEWS HOUSE
GROUND & FIRST
FLOOR VENTILATION
LAYOUT

CLIENT
DIXON8 LIMITED

SCALE @ A1
NTS

DATE
DEC '23

DRN
JK

DRAWING NO.
1982/M/202H

REV.
T2