M-Tray®
Modular Green Roof System
2020

WALLBARN presents the M-Tray® which has been developed to make sedum roofs easier to install with less disruption to both the plants and the structure. M-Tray® is also designed to give a more seamless, verdant finish and an instant green roof.

Wallbarn is at the forefront of developments in the green roofing sector and has always provided products that combine top quality ingredients with user friendly, hassle-free maintenance. **The purpose of M-Tray® is to enhance rooftop living.**

Our new design allows us to supply the best quality vegetation to site. The fully established, mature sedum or wildflower plants are contained within easy-to-carry trays which click together to form an almost invisible joint.

M-Tray® has been specifically designed* with the installer in mind. This is not an adapted tray, it is designed for purpose. Exactly 4 units per m^2 make estimating and installation much easier.

Wallbarn is a member of the Green Roof Organisation (GRO) supports the updated GRO Code for green roofing.

*M-Tray® has been designed and developed by Wallbarn in UK and is the subject of Community Registered Design (No. 002953943-0001) and US Registered Design (No. USD787,186S)

WHY MODULAR?

The main advantages of modular over roll-out green roof systems surround convenience, speed, future-proofing and instant results. All the elements required for a successful green roof have been measured and installed into the **M-Tray®** modules at the nursery, so users can feel confident that the plants, growing medium and filtration components are suitable and compatible, and at the correct level to give strong, healthy growth over the long term.

The trays are grown for a period of at least 6 months and all will have been through at least one spring growing season; so the plants are well established, healthy and strong, and fully integrated into the substrate (unlike sedum blankets, which are not).

Convenience

Mess and disruption can be a problem with roll-out systems. Bags of aggregate-based substrate can spill easily and, being so granular, can damage waterproofing membranes. Sedum blankets are also supplied rolled up, so the plants get damaged during the transport and installation process. Our **M-Tray®** modules overcome all of these issues.

Accessibility

As each module is 500 x 500mm, one **M-Tray®** can be carried by one operative. For areas which are very difficult to access, such as single storey extensions, domestic projects and other completed structures, roll-out is simply not possible. **M-Tray®** can be hand-balled into even the most awkward areas, even carried through a window (pictured) if necessary. They are the perfect retro-fit product.

Speed

It is estimated that our **M-Tray®** can be installed at least twice as quickly as roll-out systems. A team of contractors can easily install approx. 400 square metres in a day.

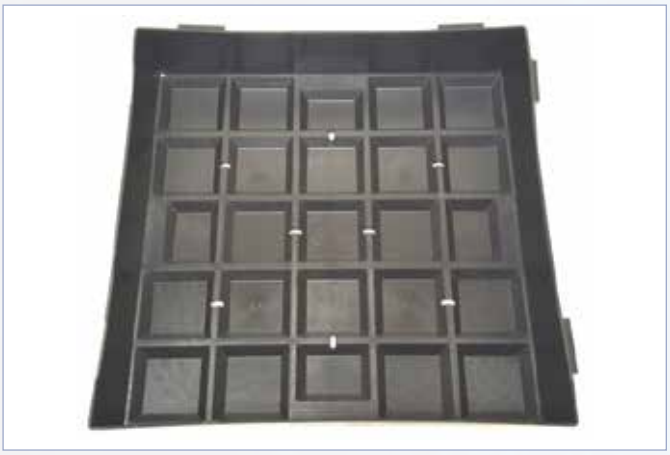
It is also an instant green roof. Since the plants are less shocked by the installation process, as soon as the trays are connected together the whole area is filled with well established plants. They will continue to mature straight away, forming a seamless layer of vegetation much faster.

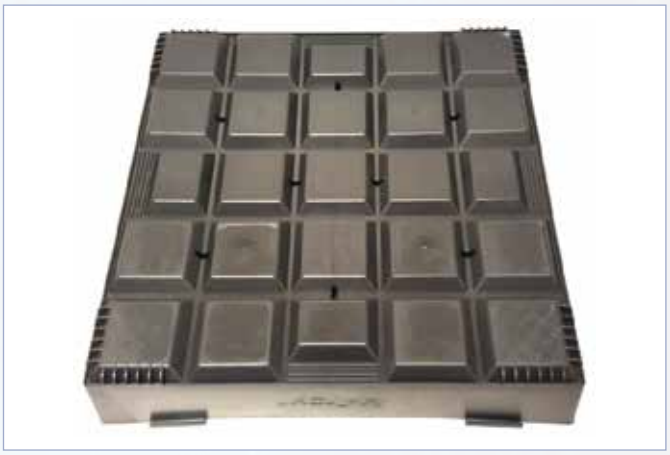
Access to the roof is future-proofed. If there are problems with the deck beneath or inspection is required, one **M-Tray®** or section can easily be lifted out without disruption to the whole roof.

THE DESIGN

Shape

M-Tray® has been especially designed for the extensive green roof market.



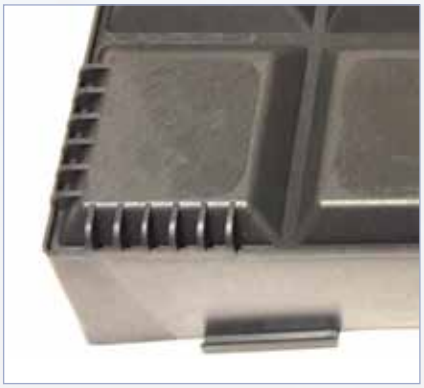


The module measures 500 x 500 x 100mm. As four units make up exactly one square metre estimating is a far easier process.

There are less drainage holes than in previous versions to keep water within the green roof system for longer. This allows the plants to absorb more rainfall, increasing attenuation and delaying discharge into outlets.

Our unique blend of substrate helps reduce rainfall run-off as well as providing greater and prolonged hydration during dry periods. The edges of the module do not have drainage holes in order to prevent the sedum dying back at the edges.

Stronger plant growth at the edges creates a more seamless layer of vegetation when the modules are connected. Four gently ridged hand grips are positioned to enable installers to carry each module easier.



Smooth edges & connecting bracket

The connecting brackets are designed to give a tight connection, with the minimum of gap between each module. The joint is only 4mm so the plants will grow over it quickly, making it disappear in ultra-quick time (white units for illustrative purposes only - all **M-Tray®** units are supplied in black).

The corners of the modules are rounded and smooth, so no sharp edges (which might puncture the membrane beneath) are present. It also makes handling the trays easier and the edges can be mounted onto Wallbarn pedestals if additional height is required.

Trims & edging

100mm aluminium edge trims and connectors fit neatly onto the sides of the modules. Fixings are not always necessary and they are designed to slot together neatly.

STEP BY STEP INSTALLATION

Wallbarn **M-Trays®** have all the necessary elements contained within them.

So no bulk bags filled with sharp aggregate or sheet membranes blowing away in the wind.

M-Tray® modules are transported to site on strapped pallets for easy, clean delivery. They can then be craned safely onto the roof if necessary.

Unpacking the pallets is a simple process. None of the contents will spill out and each module can be carried by one person.

1. A separation and filtration geotexile layer should be firstly installed onto the deck. This protects the waterproofing and prevents abrasive damage. Wallbarn usually supplies a 300gsm recycled fleece for this purpose.

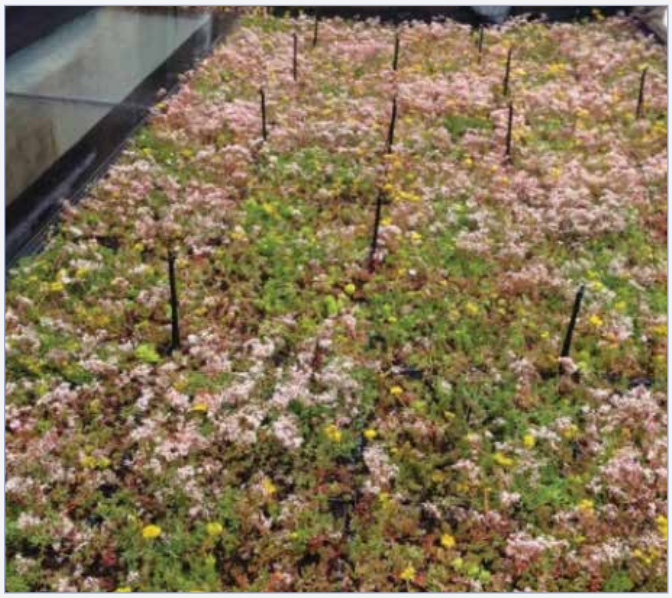
2. Start from the middle of the green roof and work outwards towards the edges. Place a module down and then click the next into place. There are two connection points on two sides of each module. Once connected up on all four sides, the module will be secured on all four sides.

3. The edges should be filled with a border of washed riverstones, in accordance with the GRO code of practice. Objects such as roof lights and cables should be surrounded with riverstones to prevent root invasion and act as a fire break.

An aluminium edge trim can be added to any exposed edges or where the stones need to held away from objects such as drainage outlets.

The modular sections mean detailing around objects is a simple process and clean lines are created. Hard landscaping sections such as paving and decking, mounted onto Wallbarn pedestals, can be added to the area to allow for regular access. As everything is suspended on top of the deck, drainage is uninterrupted.

Pop-up sprinklers or other features can be installed in conjunction with **M-Tray®** to further improve the landscaping. **M-Tray®** provides real landscape solutions and enhances rooftop living!



As well as the sedum trays, Wallbarn plants up a wildflower mix into the **M-Tray®**. A varied mix of at least thirteen different sedum species has been selected. All these flowers and herbs are low growing, hardy species, chosen to be pollinators for butterflies and bees.

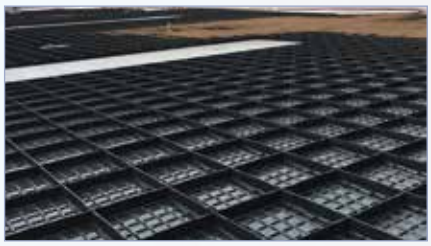
Semi-mature plug plants and bulbs can also be grown into the **M-Tray®** modules.

Our **M-Tray®** modular system has to be one of the fastest, most trouble-free ways of constructing a roof garden, and bringing nature to the urban environment

KEY ADVANTAGES

The advances made in the design of the M-Tray® model include:

- deeper cavities for extra root growth
- optimum drainage leading to stronger plant growth
- more established vegetation at point of installation
- more efficient transport and packaging
- exactly 4 units per m^2
- easier to carry trays with smooth handles
- closer connection between trays for more seamless plant growth
- no sharp edges, less risk to the membrane
- nothing spills out, less mess
- made from recycled plastic with recycled substrate
- less packaging, less waste
- designed and manufactured in UK
- designed for the job



EXPORT & LICENSING OPPORTUNITIES

As well as supplying live products for installation on UK green roofs and landscaping spaces, Wallbarn is committed to **M-Tray®** as an export product.

We can supply the modules as empty trays for local landscapes worldwide to plant up and propagate according to the local climactic conditions and their own markets.

M-Tray® has been designed and developed by Wallbarn in UK and is the subject of Community Registered Design (No. 002953943-0001) and US Design (No. USD787,186S). Further worldwide design registrations are currently being carried out.

Licensing opportunities are available for both the **M-Tray®** brand and the mould, which can be granted to specific partner companies across the globe.

An **M-Tray®** "Bible" is available to guide partners in the growing and installation process and we can draw on many years of experience.

TECHNICAL DATA

PRODUCT	M-TRAY® MODULAR GREEN ROOF CONTAINER
SUITABLE FOR	EXTENSIVE GREEN ROOF PLANTS WITH LIGHTWEIGHT, FREE-DRAINING SUBSTRATE
TYPE OF CONSTRUCTION	PERMANENT
WIDTH / BREADTH	500MM X 500MM
HEIGHT	100MM
SHAPE OF WALLS / SIDES	TAPERED / ANGLED
UNITS PER M2	4
MATERIAL	RECYCLED POLYPROPYLENE
THICKNESS OF MATERIAL	3MM
INTERNAL RIDGE HEIGHT / RESERVOIR HEIGHT	20MM
NUMBER OF INTERNAL DRAINAGE RESERVOIRS	25
DRAINAGE HOLES PER UNIT	8
DISTANCE BETWEEN TRAYS AT BASE	20MM
DISTANCE BETWEEN TRAYS AT 50MM FROM BASE	10MM
DRY WEIGHT (EMPTY)	1.1KG
WEIGHT FIELD CAPACITY ❶	32KG
CONNECTORS PER UNIT	4
NUMBER OF HANDLES ON UNDERSIDE	4
DETAIL OF CORNERS / EDGES	SMOOTH / REINFORCED
EU DESIGN TRADEMARK	NO 002953943-0001
US DESIGN TRADEMARK	NO 29/553,129

❶ FILLED & FULLY PLANTED FIELD CAPACITY OF WALLBARN SUBSTRATE & MATURE SEDUM PLANTS DURING / AFTER ABNORMAL RAINFALL CONDITIONS.

Wallbarn

ENVIRONMENT ISO 14001 CERTIFIED

QUALITY ISO 9001 CERTIFIED

FSC www.fsc.org FSC® C044122

The mark of responsible forestry

gro

NFRC THE NATIONAL FEDERATION OF ROOFING CONTRACTORS LIMITED

CPD MEMBER Construction CPD Certification Service

FASTRACK CAD ARCHITECTURAL CAD DATABASES

riba product selector

NBSPlus

NBS BIM

www.facebook.com/wallbarn

www.twitter.com/wallbarn

For more information please contact:

Wallbarn Ltd

Unit 16, Capital Business Centre • 22 Carlton Road • South Croydon • CR2 0BS • UK

T: +44(0) 208 916 2222 • F: +44(0) 208 916 2223

E: sales@wallbarn.com • W: www.wallbarn.com