COLUMBIA GREEN TECHNOLOGIES

TECHNICAL INFORMATION SHEET

Planted-In-Place Tray Green Roof System *Patented*

Description:

- Simple to install and easy to maintain
- Shorter lead time
- Lower cost of ownership
- Maximum design possibilities
- Interlocking design for superior wind uplift resistance

The Planted-in-Place Tray system, with optional built-in irrigation, is easy to install and maintain for a successful and thriving green roof long term. The unique way the Columbia Green trays overlap, interlock, and pin together keeps the tray system from shifting and allows trays to be overfilled to hide tray lines (while preventing growing media from spilling on the roof). During installation, empty trays are laid out, filled with growing media, and then planted.

This process is cleaner, less wasteful, and less labor intensive than other options on the market. Traditional pre-grown tray systems have longer lead times, and must be installed immediately on arrival. The Planted-in-Place system materials are available on-demand and can be installed in phases, making it the most flexible green roof system. The tray is comprised of a heavy duty recycled polypropylene and is designed to be placed directly on top of almost any roofing membrane system, eliminating the need for additional drainage, filtration or root barriers.

Columbia Green's trays were developed to maximize stormwater retention. The pattern of micro-holes at the tray base slows down the movement of water through the system, increases overall retention volume, and decreases overall roof run-off. Contact us for project-specific stormwater retention calculations for your jurisdiction.

The Planted-in-Place Tray system offers variable growing media depth, (from 5.25 to 8 inches), allowing for more planting options and flexibility than a traditional pre-grown tray. The system has optional integrated drip irrigation, eliminating the need hand-watering. Please see the Tray Drip Irrigation technical information sheet for more detailed information on the optional drip system.

Planting Options:

Planting design is fully customizable- including sedum cuttings, sedum plugs or fully vegetated pre-grown sedum for full coverage. Perennials, ground covers, and small shrubs are also an option.

LEED Materials Transparency:

- Post-Consumer Recycled Content: 88%
- Manufacturing Location: Washougal, WA 98671

HPD- Health Product Declaration:

Our tray has the Declare label- a voluntary disclosure of building material ingredients. Our tray system is 'Red List Free' which means it doesn't contain "worst in class" materials, chemicals, and elements known to pose risks to human health and the greater ecosystem. www.declareproducts.com

Wind Uplift:

Due to the unique interlocking design, the Planted-In-Place Tray system has considerably higher wind uplift resistance. Contact us for more information.

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System Weights:

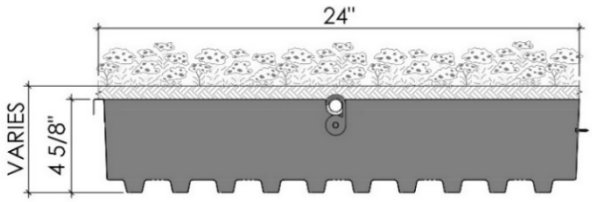
Includes 2 lbs/s.f. (plugs or cuttings) for plant material weight; add 2.5 lbs./ft² to listed weights for pregrown sedum

System Depth	*Dry Weight*	*Saturated Weight*
5.25" Media Depth	17 - 22 lbs./ft²	29 - 34 lbs./ft²
6" Media Depth	19 – 25 lbs./ft²	33 - 39 lbs./ft²
7" Media Depth	22 - 29 lbs./ft²	38 - 46 lbs./ft²
8" Media Depth	25 - 33 lbs./ft²	44 - 52 lbs./ft²

** System weights vary by region. Contact your local representative for information on weights for your specific project*

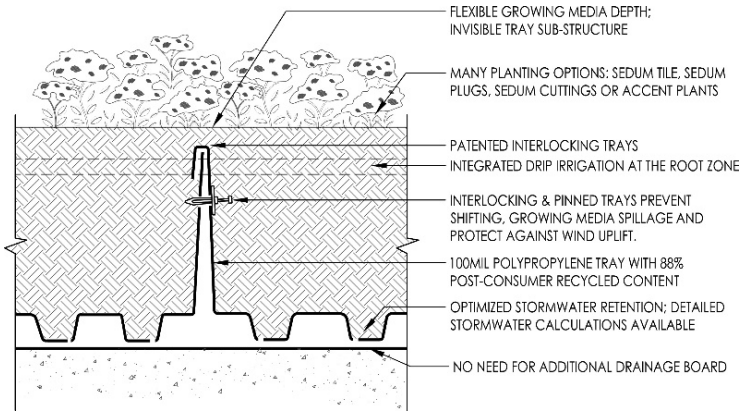
Packaging/Component Size:

Empty Tray:	
Thickness:	100 mil
Dimension:	24"W. x 24"L. X 4.625"
Coverage:	4 ft²
Weight:	3.65 lbs. per tray
Packaging:	Stacked – 400 trays/pallet



Installation:

1. Perform tray installation only after a representative from the roofing membrane manufacturer has inspected the membrane and found it to be in accordance with specifications.
2. Place the vegetative trays directly on the roofing membrane or protective layer as determined by membrane manufacturer. Interlock the trays using their overlapping sides.
3. Secure the trays to each other on all sides using the pin fastener. Place hooks with pins when drip irrigation is specified.
4. Place optional irrigation system. (See 'Drip Irrigation for Tray System Technical Information' Sheet for more information)
5. Add growing media to a depth in accordance with the design plans and specifications. (from 5.25 to 8 inches)
6. Plant specified vegetative cover. ** Fully saturate growing media when installing sedum tiles or mats.**
7. After all trays have been installed, water plant material thoroughly to ensure growth.



Storage:

- Store tray components in a dry area.
- Store away from sources of ignition and extremely high temperatures.

Precautions:

- Confirm with a certified Engineer that the structure can support the vegetative roof saturated weight.
- Minimum roof slope of 1/8" in 12" must be provided to facilitate drainage
- System components should not be installed when the weather is below 45 ºF (7.2 ºC) or above 95 ºF (35 ºC).
- Use caution when lifting trays, do not drag modules into position.
- Check roof drains regularly to ensure there are no obstructions to impede water flow.