

# BLU-GARDEN

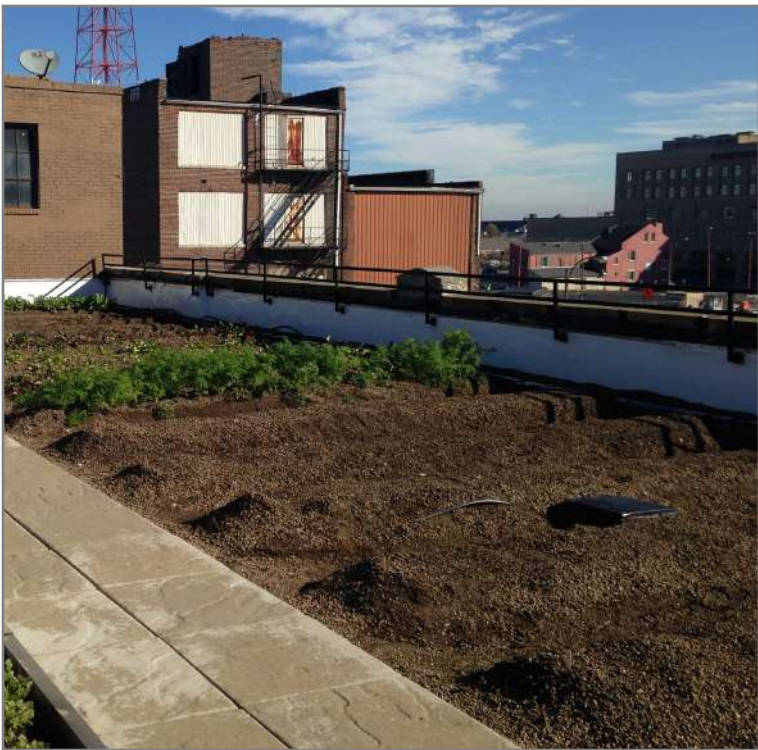
System 1800: Agricultural Applications



**SUSTAINABLU**

ON STRUCTURE STORMWATER MANAGEMENT SYSTEMS





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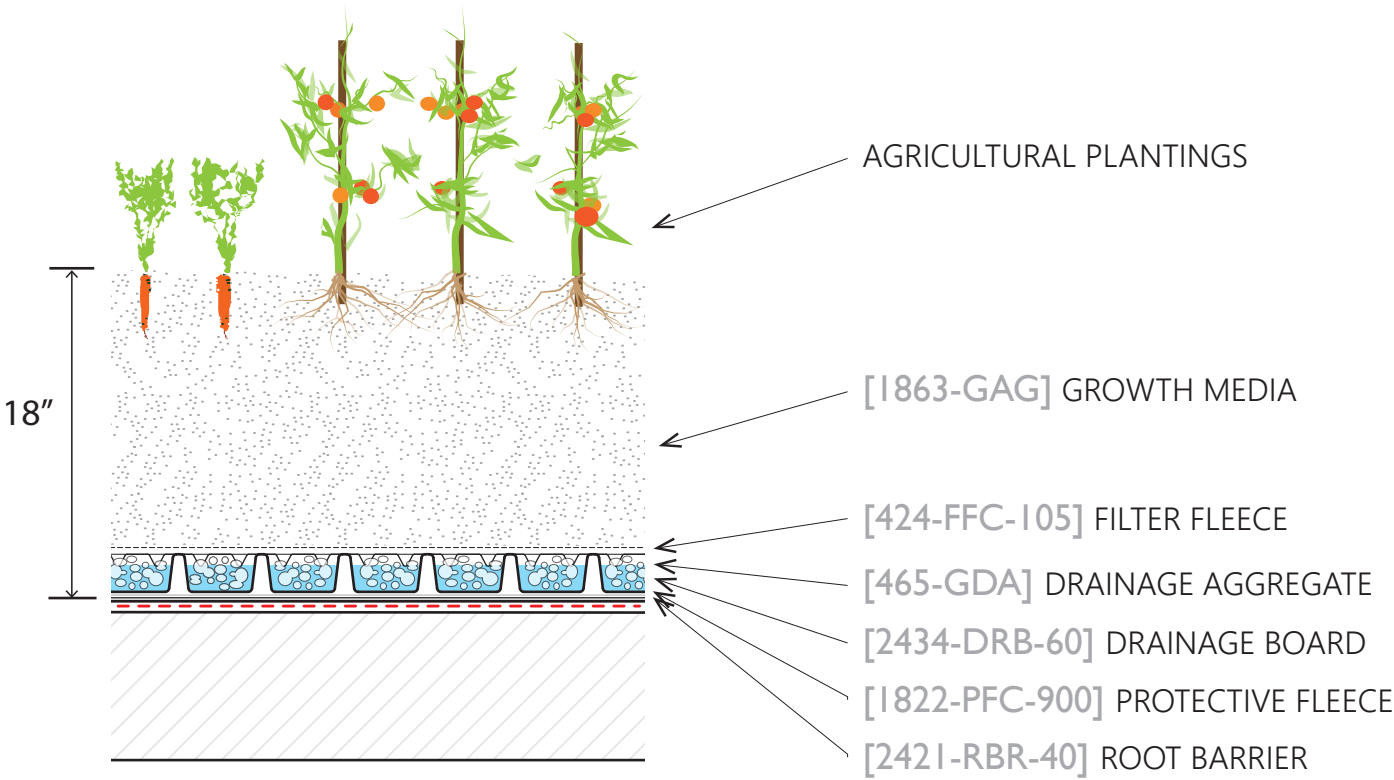
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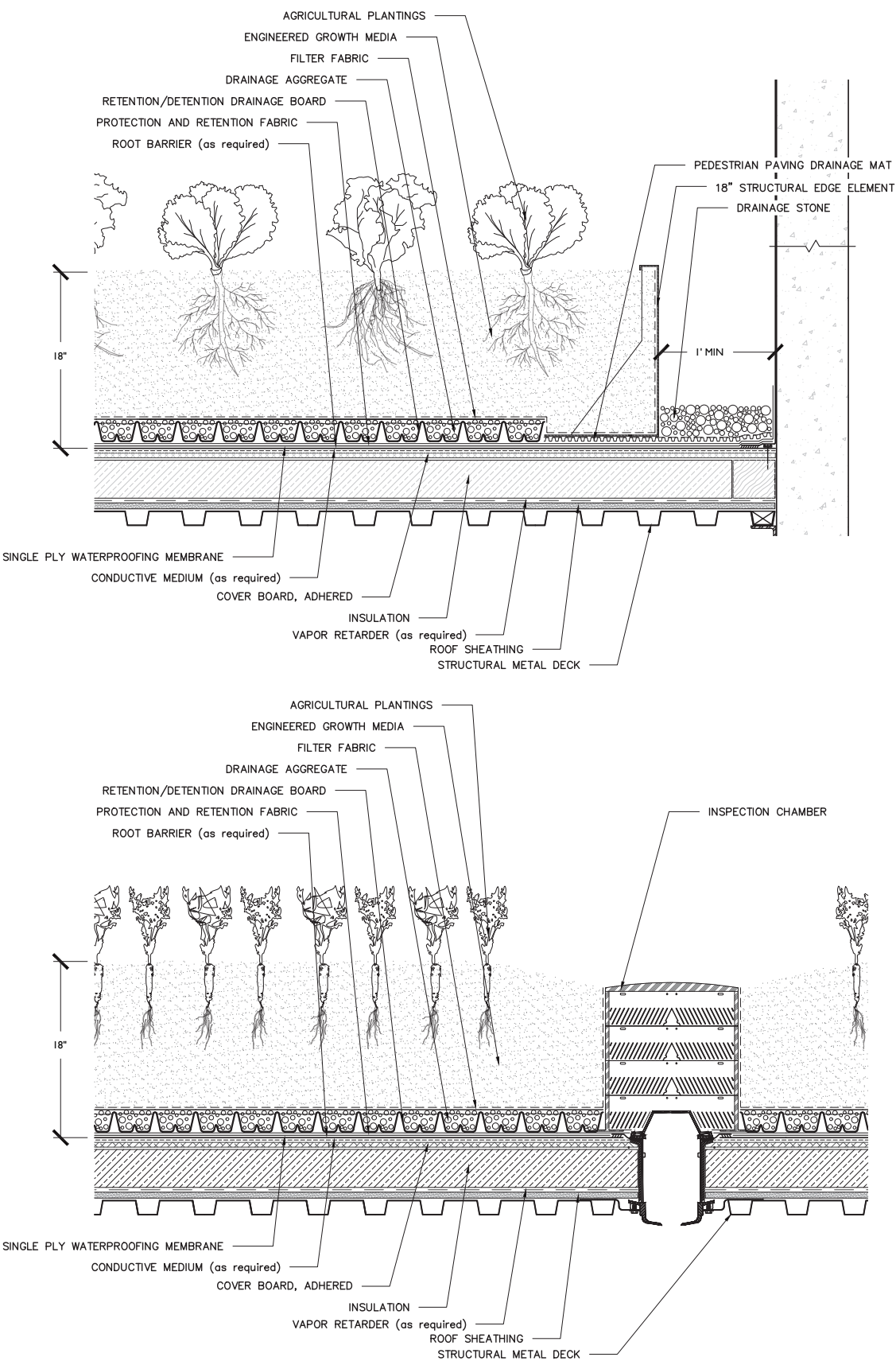
**BLU-GARDEN ASSEMBLY - AGRICULTURAL**

**STORMWATER RETENTION**  
• 4.80 - 5.67 gallons / ft<sup>2</sup>

**SATURATED WEIGHT**  
• 90 - 118 pounds / ft<sup>2</sup>



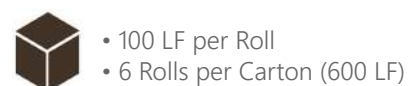
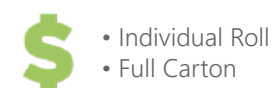
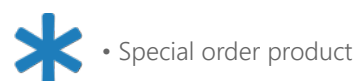
**TYPICAL WALL & DRAIN DETAILS**



## ROOT BARRIER SEAM TAPE

Root Barrier Seam Tape is an elastomeric single-sided adhesive tape used to seal the seams of our root barriers. Specific to this product, it:

- has a black polymer backing and a very **sturdy adhesive** that is specifically formulated to provide maximum performance in a green roof environment
- has a **poly release liner** which provides ease of installation
- helps assure that aggressive roots stay where they belong
- reduces the amount of root barrier overlap required



### TECHNICAL DATA

#### Materials:

- Recycled LLDPE

#### Material Thickness:

- 0.025"

#### Roll Dimensions (W x L):

- 4" x 100'

#### Roll Weight:

- 0.15 lbs. / ft<sup>2</sup>

#### Tensile Strength:

- 4,500 lbs. / in<sup>2</sup>

#### Peel Adhesion (ASTM D 1000):

- 20 lbs. / in

#### Elongation:

- 700%

#### Vegetated Roofing Use:

- To seal seams of root barriers

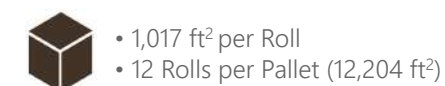
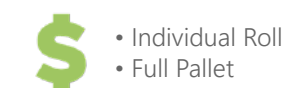
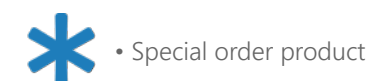
#### Installation Requirements:

- Root barrier surface must be dry and free from dust or any substance that could interfere with the adhesion of the tape

## 40 MIL HDPE ROOT BARRIER

Our 40 Mil Root Barrier is a heavy duty, high density polyethylene (HDPE) sheet which is suggested for use over hot applied asphaltic, modified bitumen, cold tar pitch / built-up roofs, & EPDM Roof Membranes. Specific to this product, it:

- **directs root growth away** from waterproofing membrane, preventing it from root damage
- **withstands heavy construction traffic**
- provides **excellent protection from UV exposure** and harsh weather conditions
- features a **high tensile strength, high puncture and tear resistance**, and excellent chemical resistance
- has the strength to be able to **protect the membrane from tree roots**



LEED Credits available for:  
• Materials & Resources (MR)

### TECHNICAL DATA

#### Materials:

- Recycled HDPE

#### Material Thickness (ASTM D 751):

- 0.04" (40 mils)

#### Roll Dimensions (W x L):

- 10.167' x 100'

#### Roll Weight (ASTM D 461):

- 192 lbs. / Roll (0.189 lbs. / ft<sup>2</sup>)

#### Tensile Strength (ASTM D 6693):

- 154 lbf / in. width

#### Mullen Burst (ASTM D 751):

- 220 lbs. / in<sup>2</sup>

#### Elongation (ASTM D 882):

- 800%

#### Tear Resistance (ASTM D 1004):

- 22 lbf

#### Hydrostatic Resistance (ASTM D 751):

- 250 lbs. / in<sup>2</sup>

#### Vegetated Roofing Use:

- Intensive vegetated roofs with semi-aggressive root systems

#### Installation Requirements:

- Overlap seams by 6"
- Tape joints with HG 3210 Seam Tape if not utilizing Leak Detection

## INTENSIVE PROTECTIVE FLEECE - 27 oz

Our Intensive Protective Fleece is designed specifically for use within Intensive green roofing systems. Specific to this product, it:

- **protects the roof membrane** and/or root barrier against damage from high mechanical demands
- **separates materials** of incompatible substrates from one another
- **stores water** & nutrients, depending on its function
- has a mass/structure and water holding capacity designed with the dead load weight and plant palettes of the Intensive roof system in mind to give the perfect **balance of water holding capacity and protection**



Protection and Storage Fleece RMS 900 by

**OPTIGRÜN®**  
ROOF GREENING



LEED Credits available for:  
• Materials & Resources (MR)



• Special order product



• Individual Roll  
• Full Pallet



• 538 ft<sup>2</sup> per Roll  
• 6 Rolls per Pallet (3,228 ft<sup>2</sup>)

## TECHNICAL DATA

### Materials:

- Polypropylene, Polyester & Recycled Acrylic Thread

### Material Thickness:

- 0.24", 27 oz.

### Roll Dimensions (W x L):

- 6' 6 3/4" x 82' 1/4"

### Roll Diameter:

- 1' 4 1/2"

### Roll Weight:

- 99 lbs.

### Total Saturated Weight:

- 1.41 lbs. / ft<sup>2</sup>

### Water Holding Capacity:

- 0.24 in<sup>3</sup> / in<sup>2</sup> (0.147 gal / ft<sup>2</sup>)

### Rot & Pathogen Resistant:

- Yes

### Puncture Resistant:

- Yes

### Vegetated Roofing Use:

- Intensive vegetative roofs

### Installation Requirements:

- Overlap fabric by 6"

## STANDARD INSPECTION CHAMBER

The Triangle Water Conduit System is designed for vegetative roofs requiring rapid water drainage and distribution. The Triangle Water Conduit System consists of:

- **ISC-FUA** - Standard Inspection Chamber
- **TWC-WLP** - Triangle Water Conduit Profile

Specific to this product, it:

- has **connection options** for one Triangle Water Conduit Profile on each side of the Standard Inspection Chamber
- **protects the outlets** from severe external effects
- incorporates **drainage slots on all sides** that retain growth media while allowing water to flow freely through
- is capped by an **easily removable cover** to allow access for inspection and for simple maintenance to remove any excess debris
- is also available with a **custom slotted aluminum cover**



LEED Credits available for:  
• Materials & Resources (MR)



Combi Inspection Chamber TKS Plus by

**OPTIGRÜN**  
ROOF GREENING



- Individual Unit
- Full Carton
- Full Pallet



- 6 Units per Carton
- 16 Cartons per Pallet (96 Units)

## TECHNICAL DATA

### Materials:

- UV Resistant Recycled ABS Plastic

### Inspection Chamber Dimensions (W x L):

- 14.5" x 14.5" (shaft)
- 18.5" x 18.5" (base)

### Inspection Chamber Height:

- 4.33" minimum
- Height adjustable in 4" segments
- Maximum Height of 32"

### Inspection Chamber Weight:

- 5.3 lbs. / unit

### Shaft Floor Opening:

- 11 3/4"

### Water Discharge Capacity (each system):

- at 0% Slope = 17.91 gallons / minute
- at 2% Slope = 19.65 gallons / minute
- at 3% Slope = 19.81 gallons / minute

\*dependent on media type

### Compressive Strength:

- 330 lbs.

### Vegetated Roofing Use:

- Ancillary drainage component for use as a roof outlet inspection on vegetated roofs

### Installation Requirements (Per 2,000 ft² area):

- (1) ISC-FUA Standard Inspection Chamber
- (30) TWC-WLP Triangle Water Conduit Profiles

## PEDESTRIAN PAVING DRAINAGE MAT

Our Pedestrian Paving Drainage Mat is designed for drainage beneath accessible areas that do not need water storage and on vertical building components. Specific to this product, it:

- is a **composite drainage layer** consisting of a three-dimensional drainage core and a filter fabric
- includes a **filter fabric bonded to the core**, preventing intrusion of the overburden into the drainage channels
- **retains soil or sand particles** as well as freshly placed concrete allowing filtered water to pass through to the drainage core
- is typically used in areas necessitating a **moderate compressive strength material for drainage**, specifically for low load pedestrian accessibility for pavers, concrete or asphalt walkways, and patios



• Special order product



- Individual Roll
- Full Pallet



LEED Credits available for:  
• Materials & Resources (MR)



- 200 ft<sup>2</sup> per Roll
- 7 Rolls per Pallet (1,400 ft<sup>2</sup>)

## TECHNICAL DATA

### Materials:

- Recycled HDPE, Polypropylene Thread

### Material Thickness:

- 0.40"

### Roll Dimensions (W x L):

- 4' x 50'

### Roll Weight:

- 39 lbs.

### Compressive Strength (ASTM D 1621):

- 15,000 lbs. / ft<sup>2</sup>

### Drainage Core Flow (ASTM D 4716):

- 21 gal / min / ft

### Filter Fabric Flow Rate (ASTM D 4491):

- 140 gal / min / ft<sup>2</sup>

### CBR Puncture (ASTM D 6241):

- 250 lbs.

### Grab Tensile (ASTM D 4632):

- 100 lbs.

### Vegetated Roofing Use:

- Pedestrian compressive strength grade drainage used below pathways or vegetated areas that do not need water storage

### Installation Requirements:

- Peel fabric back two dimples and overlap two rows of dimples, snap in place.
- Fold fabric back over joint.
- Cover boards with overburden immediately to protect from UV rays & wind uplift



## INTENSIVE 2.4" DRAINAGE / RETENTION BOARD

Our Intensive 2.4" Drainage / Retention (DR) Board provides water storage for intensive roofs with large plant palettes. Specific to this product, it:

- is a plastic panel that **retains water within pockets** on the upper side, making water available to vegetation
- has **drill holes to drainage channels** for diffusion and irrigation
- channels surplus water through its **bottom-sided canal system** for secure drainage
- allows for the incorporation of a complete array of zone appropriate **plantings, including shrubs & trees**; in a greater than 12" depth assembly
- **transfers loads uniformly** to the substructure via large contact areas



Protection and Drainage Board FKD 60BU by

**OPTIGRÜN®**  
ROOF GREENING



LEED Credits available for:  
• Materials & Resources (MR)



- Individual Unit
- Full Section
- Full Pallet



- 25.28 ft<sup>2</sup> per Unit
- 30 Units per Section (758 ft<sup>2</sup>)
- 6 Sections per Pallet (4,550 ft<sup>2</sup>)

## TECHNICAL DATA

### Materials:

- Recycled HDPE

### Material Thickness:

- 2.36"

### Board Dimensions (W x L):

- 3' 3 1/2" x 7' 8 1/8"

### Board Area:

- 25.28 ft<sup>2</sup>

### Board Weight:

- 0.47 lbs. / ft<sup>2</sup>

### Compressive Strength:

- 100.8 lbs. / in<sup>2</sup> (filled)

### Water Holding Capacity:

- 0.91 in<sup>3</sup> / in<sup>2</sup> (0.564 gal / ft<sup>2</sup>) (filled)

### Drainage Performance (fully saturated):

- at 2% Slope = 15.49 in<sup>3</sup> / ft / sec

### Vegetated Roofing Use:

- High load capacity systems that harvest stormwater and cool buildings

### Installation Requirements:

- Butt boards tight together
- Cover boards with overburden immediately to protect from UV rays & wind uplift



## STANDARD FILTER FLEECE

Our Standard Filter Fleece is used when the drainage system needs to be protected from fine particles entering from the substrate layer. Specific to this product, it:

- acts as a separation between vegetation areas and vegetation-free zones
- **separates drainage and substrate layers** in multi-layered structures
- is designed with the perfect elasticity to **allow the fibrous root structures of extensive plant species** to penetrate it
- **enables plants to uptake water** from the drainage / retention board without deteriorating the fleece's filtration capacity



Filter Fleece FIL 105 by

**OPTIGRÜN®**  
ROOF GREENING



- Individual Roll
- Full Pallet



- 2,153 ft<sup>2</sup> per Roll
- 11 Rolls per Pallet (23,683 ft<sup>2</sup>)

## TECHNICAL DATA

### Materials:

- Polypropylene Thread

### Material Thickness:

- 0.04", 3 oz.

### Roll Dimensions (W x L):

- 6' 6 3/4" x 328' 1"

### Roll Diameter:

- 11"

### Filtration Capability:

- Up to No. 140 Sieve

### Total Saturated Weight:

- 0.02 lbs. / ft<sup>2</sup>

### Tensile Strength (CBR Test):

- 1.08 lbs. / in<sup>2</sup>

### Puncture Resistance:

- 269.7 lbs.

### Rot & Pathogen Resistance:

- Yes

### Vegetated Roofing Use:

- Vegetative roofs with either a drainage/retention board or dual-media system

### Installation Requirements:

- Overlap seams by 6"
- Cover with growth media

## STRUCTURAL EDGE ELEMENTS

Our Structural Edge Elements are designed as a definite boundary between gravel / paver and growth media, providing the structural stability for heavy traffic and wear that highly accessible intensive green roofs or roof gardens encounter. Specific to this product, it:

- is **structurally stabilized** with L-support gusset plates, reinforcing the vertical wall at regular intervals dependent on the height of the edge
- utilizes a **“smooth slide” design** to make secure, invisible connections
- has **pre-fabricated inside and outside corners** for ease of installation
- is **water retardant & weather resistant**, applicable with temperatures between -58°F up to 176°F
- is **lightweight combined with high stiffness** and dimensional stability
- has a black polyethylene core that offers **UV protection**, material stability, and **long term application outdoors**



Edge Elements by  
**OPTIGRÜN**  
ROOF GREENING



• Special order product



• System (Lengths, Clips, & Corners)



• Configuration of packaging is dependent on the size of the order. Bulk pallets of materials are available for larger jobs.

### TECHNICAL DATA

#### System Type:

- Monolithic / Contiguous / Modular

#### Materials:

- 0.3 mm Aluminum surface layers (both sides)
- Polyethylene core

#### Material Thickness:

- 3 mm

#### Roof / Deck Slope Constraint:

- Up to 5° slope or 1:12 roof pitch

#### Vegetated Roofing Use:

- High traffic intensive vegetated roofs / plaza decks

#### Installation Requirements:

- Lay edge profile sections end to end on top of drainage mat, with foot of restraint toward vegetative portion of roof
- Slide Male Clips into Female Lengths
- Connect all components as shown on edging plan



**1845-ESF-18 18" Female Profile:**  
Dimensions (H x W x L): 18" x 16" x 48"  
Weight: 2.41 lbs. / LF



**1845-ESM-18 18" Male Connector:**  
Dimensions (H x W x L): 17.70" x 11.82" x 30"  
Weight: 2.97 lbs. / LF



**1845-ES9-18 18" Male Corner:**  
Dimensions (H x W x L): 17.70" x 12" x 12"  
Weight: 2.23 lbs. / LF

#### Material Finishes:



Mill (natural aluminum)



Brushed Stainless



Brushed Bronze



Dark Bronze



Black



Dark Green



Marine Blue



Hunter Red



Caution Yellow

\*Structural Aluminum Edge profiles are also available in 15" & 24" heights.



TERRAPOR AG - AGRICULTURAL GROWTH MEDIA

Our Agricultural Blend is mixed for vegetated roofs with numerous varieties of crop palettes. We custom blend per a project's crop palette. Agricultural Blend growth media offers many advantages:

- a precisely blended growth media designed for agricultural green roof systems with a **media depth of 6-18 inches**
- designed to be **lightweight**, Agricultural Blend growth media uses porous materials designed to **retain maximum amounts of water** while simultaneously **promoting drainage**
- optimized for farming and the production of **agricultural crops**
- blended to strict **FLL-compliant** guidelines



 • Special order product

 • 1 ft<sup>3</sup> Bag  
• 2 yd<sup>3</sup> Supersack  
• Bulk

 • 1 ft<sup>3</sup> Bag  
• 2 yd<sup>3</sup> Supersack  
• Bulk



LEED Credits available for:  
• Materials & Resources (MR)

QUICK REFERENCE & SHIPPING DATA

**Vegetated Roofing Use:**

- Standard agricultural vegetated roofs

**Coverage (1 yd<sup>3</sup>):**

- at 9" = 36 ft<sup>2</sup>
- at 12" = 27 ft<sup>2</sup>
- at 18" = 18 ft<sup>2</sup>

**Dry Weight (approximate):**

- 43 lbs. / ft<sup>3</sup>

**Saturated Weight (approximate):**

- 74 lbs. / ft<sup>3</sup>
  - at 9" = 55.5 lbs. / ft<sup>2</sup>
  - at 12" = 74.0 lbs. / ft<sup>2</sup>
  - at 18" = 111.0 lbs. / ft<sup>2</sup>

**Bulk Shipping Data:**

- Bulk material weighs approximately 1,425 lbs. / yd<sup>3</sup>
- 32 - 34 yd<sup>3</sup> in dump trailer, 22 - 24 yd<sup>3</sup> in a tri-axle

**2 yd<sup>3</sup> Super Sacks:**

- 2 yd<sup>3</sup> Super Sacks weigh approximately 2,850 lbs.
- 15 - 16 2 yd<sup>3</sup> Super Sacks / flatbed trailer

**1 ft<sup>3</sup> Bags:**

- 1 ft<sup>3</sup> Bag weighs approximately 52.4 lbs.
- 60 Bags / pallet
- 14 - 15 pallets / flatbed trailer

TECHNICAL DATA

\*Third party growth media analysis & testing completed by an authorized FLL Laboratory.

| <u>Grain Size Distribution:</u>                   | <u>mm</u>                       | <u>Inches</u>                          | <u>% of Dry Weight</u>                                |
|---------------------------------------------------|---------------------------------|----------------------------------------|-------------------------------------------------------|
| Passing 1/2" Sieve                                | 12.50                           | 0.50                                   | 100                                                   |
| Passing 3/8" Sieve                                | 9.53                            | 0.375                                  | 80 - 100                                              |
| Passing 1/8" Sieve                                | 3.18                            | 0.125                                  | 50 - 85                                               |
| Passing #18 Sieve                                 | 1.00                            | 0.039                                  | 30 - 55                                               |
| Passing #60 Sieve                                 | 0.25                            | 0.010                                  | 20 - 35                                               |
| Passing #230 Sieve                                | 0.06                            | 0.002                                  | 10 - 25                                               |
| Silt & Clay Fraction                              | < 0.06                          | < 0.002                                | < 10                                                  |
| <u>Density:</u>                                   | <u>g / cm<sup>3</sup></u>       | <u>lbs. / ft<sup>3</sup></u>           |                                                       |
| Application Density                               | 0.61 - 0.78                     | 38 - 49                                |                                                       |
| Saturated Density                                 | 1.01 - 1.25                     | 63 - 78                                |                                                       |
| Dry Media                                         |                                 |                                        | <u>% of Total Weight</u>                              |
|                                                   |                                 |                                        | 31 - 62                                               |
| <u>Water &amp; Air Management:</u>                | <u>% by Volume</u>              | <u>in<sup>3</sup> / ft<sup>3</sup></u> |                                                       |
| Saturated Water Capacity                          | 40 - 70                         | 690 - 1205                             |                                                       |
| Saturated Air Capacity                            | > 10                            | > 173                                  |                                                       |
|                                                   | <u>cm / hour</u>                | <u>inches / hour</u>                   |                                                       |
| Saturated Hydraulic Conductivity                  | > 5.0                           | > 1.7                                  |                                                       |
| <u>pH, Lime, &amp; Salt Content:</u>              | <u>units</u>                    | <u>% as CaCO<sub>3</sub></u>           | <u>mmhos / cm</u>                                     |
| pH (saturated paste)                              | 6.0 - 7.5                       | -                                      | -                                                     |
| Carbonate Content                                 | -                               | < 2.5                                  | -                                                     |
| Electrical Conductivity                           | -                               | -                                      | < 2.5                                                 |
| <u>Organics:</u>                                  | <u>% of Dry Weight</u>          |                                        |                                                       |
| Organic Matter                                    | 8.0 - 10.0                      |                                        |                                                       |
| C/N Ratio                                         | < 25:1                          |                                        |                                                       |
| <u>Nutrients:</u>                                 | <u>mg / l Saturated Extract</u> | <u>lbs. / 1,000 ft<sup>3</sup></u>     | <u>FLL Parameters<br/>lbs. / 1,000 ft<sup>3</sup></u> |
| Nitrogen (NO <sub>3</sub> + NH <sub>4</sub> as N) | 351 - 417                       | 12 - 14                                | 3 - 15                                                |
| Phosphorous (as P <sub>2</sub> O <sub>5</sub> )   | 135 - 189                       | 6 - 7                                  | 1 - 7                                                 |
| Potassium (K <sub>2</sub> O)                      | 324 - 340                       | 14 - 15                                | 6 - 15                                                |
| Calcium (Ca)                                      | 702 - 1134                      | 27 - 44                                | 19 - 65                                               |
| Magnesium (Mg)                                    | 162 - 216                       | 6 - 9                                  | 3 - 15                                                |
| Sulfur (as SO <sub>4</sub> -S)                    | 81 - 97                         | 3.0 - 3.5                              | 1 - 3.5                                               |
| Copper (Cu)                                       | 7 - 14                          | 0.25 - 0.50                            | 0.25 - 0.50                                           |
| Zinc (Zn)                                         | 0.28 - 0.83                     | 0.01 - 0.03                            | 0.01 - 0.03                                           |
| Iron (Fe)                                         | 27 - 54                         | 1 - 2.5                                | 1 - 3                                                 |
| Manganese (Mn)                                    | 27 - 81                         | 1 - 3                                  | 1 - 3                                                 |
| Boron (Water Soluble B)                           | 7 - 14                          | 0.25 - 0.50                            | 0.25 - 0.50                                           |
| <u>Cation Exchange Capacity:</u>                  | <u>meg / 100g dw</u>            |                                        |                                                       |
| CE <sub>cap</sub>                                 | > 6                             |                                        |                                                       |

## TERRAPOR DR - DRAINAGE AGGREGATE

Our Drainage Aggregate is a granular drainage medium specifically designed for use as a filler substrate beneath our multi-layer green roof systems. We provide extensive, semi-intensive, & intensive blends of our Drainage Aggregate. Drainage Aggregate offers many advantages:

- most commonly used as a **pressure-resistant fill** within drainage boards
- an **excellent bedding material** for pavers as a maintenance path or patio
- **embedded drainage channels** may be used to transfer excess water quickly to roof drains or scuppers



LEED Credits available for:  
• Materials & Resources (MR)



- 1 ft<sup>3</sup> Bag
- 2 yd<sup>3</sup> Supersack
- Bulk



- 1 ft<sup>3</sup> Bag
- 2 yd<sup>3</sup> Supersack
- Bulk

### QUICK REFERENCE & SHIPPING DATA

**Vegetated Roofing Use:**

- Granular drainage layer

**Coverage (1 yd<sup>3</sup>):**

- at 3" = 108 ft<sup>2</sup>
- at 4" = 81 ft<sup>2</sup>
- at 6" = 54 ft<sup>2</sup>

**Dry Weight (approximate):**

- 40 lbs. / ft<sup>3</sup>

**Saturated Weight (approximate):**

- 52 lbs. / ft<sup>3</sup>
  - at 3" = 14.0 lbs. / ft<sup>2</sup>
  - at 4" = 17.33 lbs. / ft<sup>2</sup>
  - at 6" = 26.0 lbs. / ft<sup>2</sup>

**Bulk Shipping Data:**

- Bulk material weighs approximately 1,080 lbs. / yd<sup>3</sup>
- 32 - 34 yd<sup>3</sup> in dump trailer, 22 - 24 yd<sup>3</sup> in a tri-axle

**2 yd<sup>3</sup> Super Sacks:**

- 2 yd<sup>3</sup> Super Sacks weigh approximately 2,160 lbs.
- 15 - 16 2 yd<sup>3</sup> Super Sacks / flatbed trailer

**1.5 yd<sup>3</sup> Super Sacks:**

- 1.5 yd<sup>3</sup> Super Sacks weigh approximately 1,620 lbs.
- 21 - 22 1.5 yd<sup>3</sup> Super Sacks / flatbed trailer

**1 ft<sup>3</sup> Bags:**

- 1 ft<sup>3</sup> Bag weighs approximately 40.0 lbs.
- 60 Bags / pallet
- 14 - 15 pallets / flatbed trailer

### TECHNICAL DATA

| <u>Grain Size Distribution:</u>      | <u>mm</u>                 | <u>Inches</u>                          | <u>% of Dry Weight</u> |
|--------------------------------------|---------------------------|----------------------------------------|------------------------|
| Passing 1/2" Sieve                   | 12.50                     | 0.50                                   | 95 - 100               |
| Passing 3/8" Sieve                   | 9.53                      | 0.375                                  | 75 - 90                |
| Passing 1/4" Sieve                   | 6.35                      | 0.25                                   | 30 - 45                |
| Passing 1/8" Sieve                   | 3.18                      | 0.125                                  | 10 - 25                |
| Passing #18 Sieve                    | 1.00                      | 0.039                                  | 0 - 15                 |
| Passing #60 Sieve                    | 0.25                      | 0.010                                  | 0 - 10                 |
| Passing #230 Sieve                   | 0.06                      | 0.002                                  | 0 - 5                  |
| <u>Density:</u>                      | <u>g / cm<sup>3</sup></u> | <u>lbs. / ft<sup>3</sup></u>           |                        |
| Application Density                  | 0.55 - 0.72               | 35 - 45                                |                        |
| Saturated Density                    | 0.70 - 0.95               | 44 - 60                                |                        |
| <u>Water &amp; Air Management:</u>   | <u>% by Volume</u>        | <u>in<sup>3</sup> / ft<sup>3</sup></u> |                        |
| Saturated Water Capacity             | 15 - 25                   | 260 - 432                              |                        |
| Saturated Air Capacity               | 35- 45                    | 605 - 778                              |                        |
| <u>Pore Volume:</u>                  | <u>% by Volume</u>        |                                        |                        |
| Total                                | 50 - 75                   |                                        |                        |
| <u>pH, Lime, &amp; Salt Content:</u> | <u>units</u>              | <u>% as CaCO<sub>3</sub></u>           | <u>mmhos / cm</u>      |
| pH (in CaCl <sub>2</sub> )           | 6.0 - 8.5                 | -                                      | -                      |
| Carbonate Content                    | -                         | < 2.5                                  | -                      |
| Electrical Conductivity              | -                         | -                                      | < 2.5                  |



## [RBR] Root BARRIERS

| Product #    | Product Description                                                                          | Suggested Market Price                                                       |
|--------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| 421-RBS-20*  | Root Barrier Seam Tape<br>Size Available: 4" x 100' (33.3 SF/Roll)<br>6 Rolls/Carton         | Individual Roll Price<br>Full Carton Price<br>\$114.10/Roll<br>\$109.44/Roll |
| 2421-RBR-40* | 40 Mil HDPE Root Barrier<br>Size Available: 10.17' x 100' (1,017 SF/Roll)<br>12 Rolls/Pallet | Individual Roll Price<br>Full Pallet Price<br>\$0.89/SF<br>\$0.79/SF         |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Seam Tape



40 Mil  
Root Barrier

\* ALL ROOT BARRIERS ARE SPECIAL ORDER ITEMS - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 1-2 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.

## [PFC] PROTECTIVE FLEECES

| Product #     | Product Description                                                                                         | Suggested Market Price                                         |
|---------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| 1822-PFC-900* | Intensive Protective Fleece - 27 oz<br>Size Available: 6'-6 3/4" x 82'-1/4" (538 SF/Roll)<br>6 Rolls/Pallet | Individual Roll Price \$0.39/SF<br>Full Pallet Price \$0.37/SF |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Intensive Protective Fleece

\* DENOTES SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 6-9 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.



## [ISC] INSPECTION CHAMBERS / [DRM] DRAINAGE

| Product #    | Product Description                                                                                                                                                                                                                                | Suggested Market Price                 |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| 433-DRM-10J* | Pedestrian Paving Drainage Mat<br>Size Available: 4' x 50' (200 SF/Roll)<br>7 Rolls/Pallet <div>             Individual Roll Price<br/>             Full Pallet Price           </div>                                                             | \$0.75/SF<br>\$0.68/SF                 |
| 431-ISC-FUA  | Standard Inspection Chamber<br>Size Available: 14-1/2" x 14-1/2" x 4"<br>6 Drainboxes/Carton<br>16 Cartons/Pallet <div>             Individual Unit Price<br/>             Full Carton Price<br/>             Full Pallet Price           </div>   | \$105.36EA<br>\$81.94/EA<br>\$73.75/EA |
| 431-ISC-SID  | Standard Inspection Chamber Extenders<br>Size Available: 4" Extender<br>22 4" Extenders/Carton<br>12 Cartons/Pallet <div>             Individual Unit Price<br/>             Full Carton Price<br/>             Full Pallet Price           </div> | \$43.03/EA<br>\$33.47/EA<br>\$30.12/EA |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Pedestrian Paving  
Drainage Mat



Standard Inspection  
Chamber and  
Accessories

\* DENOTES A SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 6-9 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.

## [DRB] DRAINAGE / RETENTION BOARDS

| Product #   | Product Description                                                                                                                 | Suggested Market Price                                                                         |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|
| 2434-DRB-60 | Intensive 2.4" Drainage / Retention Board<br>Size Available: 7'-8 1/8" x 3' 3-1/2" x 2.4"<br>30 Boards/Section<br>6 Sections/Pallet | Individual Unit Price \$2.48/SF<br>Full Section Price \$2.17/SF<br>Full Pallet Price \$1.79/SF |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Intensive 2.4"  
DR Board

\* DENOTES A SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 6-9 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.

## [FFC] FILTER FLEECES

| Product #   | Product Description                                                                              | Suggested Market Price                     |
|-------------|--------------------------------------------------------------------------------------------------|--------------------------------------------|
| 424-FFC-105 | Standard Filter Fleece<br>Size Available: 6'-6 3/4" x 328' 1" (2,153 SF/Roll)<br>11 Rolls/Pallet | Individual Roll Price<br>Full Pallet Price |
|             |                                                                                                  | \$0.15/SF<br>\$0.13/SF                     |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Standard Filter Fleece

\* DENOTES A SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 6-9 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.



## [EDG] EDGE ELEMENTS

| Product # | Product Description                                                                                                                                                | Suggested Market Price                                                        |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| 2445-EDG* | Structural Edge Elements (AVAILABLE IN RAL COLORS)<br>Size Available: 15" Lengths, Clips & Corners<br>18" Lengths, Clips & Corners<br>24" Lengths, Clips & Corners | System Price \$63.17/LF<br>System Price \$72.51/LF<br>System Price \$96.27/EA |

**FULL LOAD PRICING AVAILABLE FOR DISTRIBUTORS AND LARGE PROJECT CUSTOMERS**



Structural Edge Elements

\* DENOTES A SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 6-9 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.

## [GRM] TerraPor Hydrological Growth Media

| Product # | Product Description                                                                                   | East Coast<br>Suggested Market Price      | Midwest/South<br>Suggested Market Price | Northwest<br>Suggested Market Price |
|-----------|-------------------------------------------------------------------------------------------------------|-------------------------------------------|-----------------------------------------|-------------------------------------|
| 1863-GAG  | TerraPor AG - Agricultural<br>Size Available: 1 Cubic Foot Bags<br>2 CY Supersacks<br>Bulk            | \$212.45/CY<br>\$129.94/CY<br>\$99.81/CY  | N/A<br>\$103.57/CY<br>\$81.11/CY        | N/A<br>\$109.76/CY<br>\$81.09/CY    |
| 1863-GAL  | TerraPor AGL - UltraLite Agricultural<br>Size Available: 1 Cubic Foot Bags<br>2 CY Supersacks<br>Bulk | \$242.23/CY<br>\$159.72/CY<br>\$129.59/CY | N/A<br>\$131.28/CY<br>\$108.82/CY       | N/A<br>\$138.17/CY<br>\$109.50/CY   |
| 465-GDA   | TerraPor DR - Drainage Aggregate<br>Size Available: 1 Cubic Foot Bags<br>2 CY Supersacks<br>Bulk      | \$239.82/CY<br>\$151.17/CY<br>\$119.91/CY | N/A<br>\$129.51/CY<br>\$109.27/CY       | N/A<br>\$115.47/CY<br>\$89.57/CY    |



- EAST COAST INCLUDES: ME, NH, VT, MA, CT, NY, NJ, PA, DE, MD, DC, VA & NC
- MW/SOUTH INCLUDES: OH, KY, TN, GA, MI, IN, AL, WI, IL, MS, MN, IA, MO, AR, LA, ND, SD, NE, KS, OK, TX & CO
- NORTHWEST INCLUDES: ID, WA, OR & CA

PROVIDE 2-3 WEEKS FOR DELIVERY FROM PURCHASE ORDER DATE. PRICE DOES NOT INCLUDE \$15/PALLET PER 2 CY SUPERSACK

\* DENOTES A SPECIAL ORDER ITEM - DOWNPAYMENTS REQUIRED ON ALL SPECIAL ORDER ITEMS - PROVIDE 2-3 WEEKS FOR DELIVERY FROM DOWNPAYMENT DATE.





SUSTAINABLU focuses on design integration, project delivery, and products for on-structure stormwater management and green infrastructure. Capabilities range from **amenity decks**, **green roofs**, **blue roofs**, **solar roofs** and **smart leak detection systems**, providing the most complete line for effective On-Structure Stormwater Management systems and products available.

With on-staff designers and a network of landscape architects, contractors, architects, engineers, and developers, SUSTAINABLU is the common thread from idea conception to completion. The company provides products from top vendors around the world, tailoring products to each unique design. Product lines offered include paver pedestal, concrete roof pavers, wood deck tiles, porcelain tiles, green roofing solutions, smart drains and leak detection systems, with SUSTAINABLU bringing them together with total system warranties supported by numerous roofing manufacturers.

SUSTAINABLU has completed projects in cities across North America and has representation and warehouses throughout the United States.

**SUSTAINABLU**  
800.333.5406

[www.SUSTAINABLU.us](http://www.SUSTAINABLU.us)

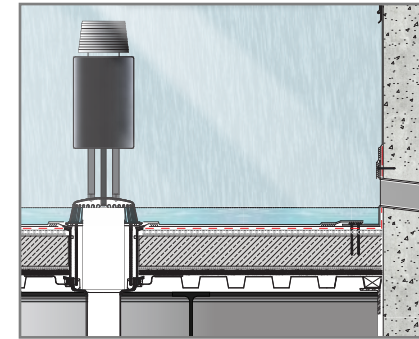
Design Integration  
[technical@SUSTAINABLU.us](mailto:technical@SUSTAINABLU.us)

Product / Sale Inquiries  
[sales@SUSTAINABLU.us](mailto:sales@SUSTAINABLU.us)



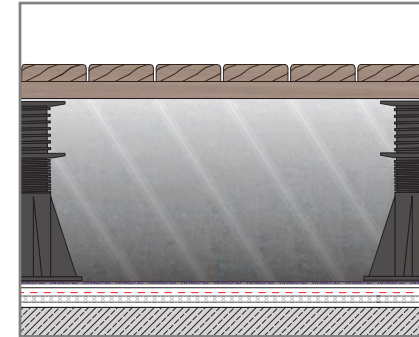
BLU-SMART

100 - BLU-SMART SYSTEMS



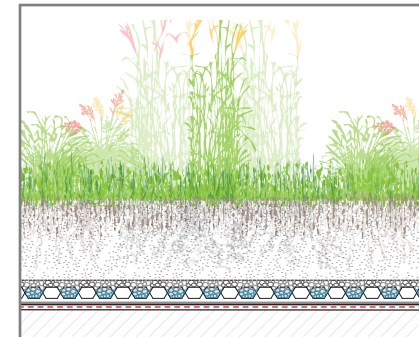
BLU-TERRACE

300 - BLU-TERRACE SYSTEMS



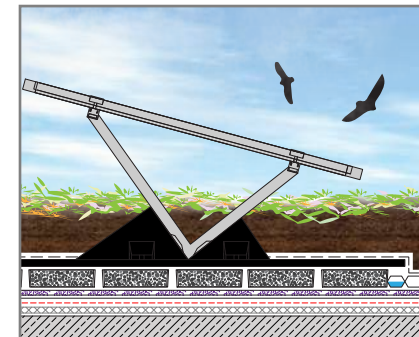
BLU-GARDEN

400-2400 - BLU-GARDEN SYSTEMS



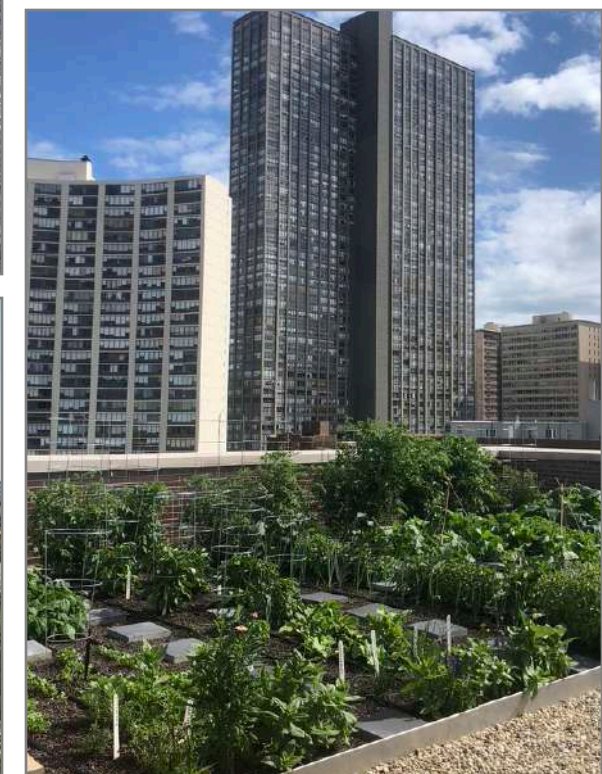
BLU-SOLAR

5000 - BLU-SOLAR SYSTEMS



BLU-MOUNT

8000 - BLU-MOUNT SYSTEMS









## INSTALLATION GUIDELINES

- 1** Ensure all roof surfaces are free of dirt, debris and incompatible materials.



- 2** To prevent root damage to the waterproofing membrane, roll out root barrier over the entire green roof area, extending beyond green roof extents a minimum of 12" in all directions.

Install root barrier with a minimum of 12" side and end overlaps.

Turn up root barrier a minimum of 4" above finish elevation line at all vertical perimeters and projections and temporarily hold in place with seam tape.

Tape all seams with seam tape.



- 3** To protect the waterproofing membrane, roll out protection fleece over the entire roof surface.

Install protection fleece with a minimum of 4" side and 12" end overlaps.

Turn up protection fleece a minimum of 4" above finish elevation line at all vertical perimeters and projections.

Wet fabric as necessary to provide short-term ballast. For long-term ballast, use sandbags or paver slabs. Never cut near the roofing membrane for installation. Only cut fabric using industrial shears, and never with a utility knife.



## INSTALLATION GUIDELINES

- 4** To separate green roof areas from hardscaping/aggregate areas without restricting roof drainage, install edge elements according to drawings.

Place edge element sections, connectors, and corners end to end on top of protection fleece, with foot of edge element toward vegetative portion of roof.

Slide connectors and corner components into edge profiles.



- 5** Install drainage boards on top of protection fleece (and on top of edge element foot, if applicable) at green roof areas starting at roof drains and working towards higher elevations.

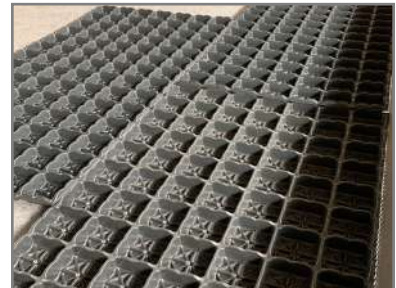
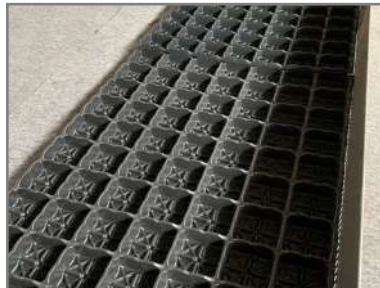
Small corrugation peak must be facing upwards (FKD 40 must be visible from above).

Overlap drainage boards a minimum of 1-2 corrugations on both sides and ends.

If necessary, cut drainage boards with a circular saw for efficient use of material and to ensure crisp edges upon cutting. Always cut along valley between corrugations. Never use a utility knife or cut near the roof surface.

At roof drains, cut out the inside dimension of the inspection chamber in order to ensure optimum water discharge into the roof drain.

Drainage boards should be filled with overburden immediately after installation to protect from UV rays and wind uplift.

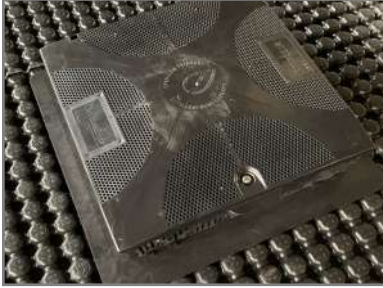




## INSTALLATION GUIDELINES

- 6** If drainage board is installed adjacent to roof drains, inspection chamber is to be placed directly on top of drainage board.
- If a drainage/ballast stone is to be installed, inspection chamber should be placed directly on the protection fleece, with the drainage/ballast stone abutting the outside walls.

For inverted roof assemblies, inspection chambers are placed on the thermal insulation. A separation ring is then installed and filled with gravel, thus forming the gravel strip surrounding the inspection chamber.



- 7** To separate drainage from substrate layers, roll out filter fleece on top of drainage aggregate.
- Install filter fleece with a minimum of 4" side and 12" end overlaps.

Turn up filter fleece a minimum of 4" above finish elevation line at all vertical perimeters and projections.

Wet fabric as necessary to provide short-term ballast. For long-term ballast, use sandbags or paver slabs. Never cut near the roofing membrane for installation. Only cut fabric using industrial shears, and never with a utility knife.



- 8** Spread growth media to depths specified with no more than 1/2" variation.
- Growth media is to be placed carefully to avoid damage or displacement of other materials such as edge elements, filter fleece and drainage components.

Only use flat-edge plastic shovels and landscaping rakes for placement, movement, and leveling of growth media. All other tools must be approved by manufacturer for use.

Ensure that growth media does not get under the filter fleece, between filter fleece overlap, or into the drainage board cups. If this does occur, use a portable shop vacuum to make sure the debris is removed and placed appropriately.



## INSTALLATION GUIDELINES

- 9** Thoroughly wet growth media and overlay pre-vegetated mats, making sure mats are tight together and maintaining good overall contact with growth media layer.

Pre-vegetated mats should be installed immediately after delivery, ideally on the same day. If that is not possible, they need to be unrolled and stored flat.

After all mats have been installed, thoroughly water entire roof.



- 10** Thoroughly wet growth media and distribute sedum cuttings throughout green roof area according to drawings and specified distribution rate. Unless otherwise noted, the recommended distribution rate shall be 12 lbs/100 SF.

Apply when temperature is between 35° F (2°C) and 89° F (32°C).

If more than 24 hours has elapsed since installing and soaking the growth media, thoroughly re-soak growth media prior to commencing the broadcast distribution of sedum cuttings.



- 11** Set plugs into growth media to their full depth and then press the growth media firmly around the installed plug according to approved landscape design.

If more than 24 hours has elapsed since installing and soaking the growth media, thoroughly re-soak growth media prior to commencing the planting of plugs.

If an erosion/wind netting is required, make cuts in the erosion/wind netting as required to insert the plugs.

At the end of each day of planting, soak those areas that have been newly planted.

