



Etera SedumTile[™]

Pre-Vegetated Mats

Product Specifications

Etera[™] Green Roof Plants

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SECTION XXXXXX PRE-VEGETATED MATS

PART 1 GENERAL

1.1 SCOPE

Provide all labor, material, tools, and equipment to unload, convey to roof, and install Etera™ SedumTiles™ pre-vegetated mats.

1.2 RELATED SECTIONS

- A. Membrane Roofing
- B. Irrigation

1.3 QUALITY ASSURANCE

- A. Source Responsibility: The vegetated roof plant material shall be SedumTiles pre-vegetated mats as provided by Etera Green Roof Plants.
- B. Contact:
 - Etera™ Green Roof Plants
 - 14113 Riverbend Road
 - Mt. Vernon, WA 98273
 - 877-694-7613 phone
 - tatianorth@etera.com
- C. System Installer:
 - 1. Company specializing in work of this section with documented experience of comparable scope.
 - 2. Accepted by Architect as qualified for installing work of this Section prior to Bid Date.

1.4 PROJECT CONDITIONS

- A. Environmental Conditions:
 - 1. SedumTiles should not be installed when temperatures are below freezing.
 - 2. When roof temperatures are expected to reach above 100° F (38° C) on day of installation install mats early in the day when temperatures are lower, or water the roof growing media to lower the temperature just before installation.
 - 3. SedumTiles should not be installed over waterlogged media.
 - 4. SedumTiles should not be installed during prolonged periods of drought unless irrigation is available.
- B. Existing Conditions:
 - 1. It is the responsibility of the installer to verify load limits for the roof structure prior to installation of the green roof elements.



2. It is the responsibility of the installer to inspect or verify inspection of a new or existing roof for watertight conditions prior to installation of the green roof elements.

PART 2 PRODUCTS

2.1 Etera SedumTiles pre-vegetated mats:

- A. Etera SedumTiles are made up of a coconut fiber base filled with a planting substrate, and pre-cultivated with a layer of low-profile, drought-tolerant vegetation adapted to rooftop conditions.
- B. Etera SedumTiles measure 10"x 20." and range from 2" to 4" in height on delivery. (Dependent on the variety of vegetation included.)
- C. Etera SedumTiles maximum wet weight is 6.3 lbs. each (or 4.5 #/sf)
- D. Etera Sedum Tiles shall have a minimum 95% vegetation coverage upon delivery to the site using a succulent plant mix as described below:

(edit to requirements)

1. **Etera SedumTiles Color Max** – A blend of sedums for the roof where maximum color is desired. This comes in the form of brightly colored foliage, flowers in abundance, and colors that blend and go together well. The SedumTiles shall consist of 6-8 of the following:
 - a. *Sedum acre* 'Aurea'
 - b. *Sedum album* 'Coral Carpet'
 - c. *Sedum album* 'Orange Ice'
 - d. *Sedum floriferum* 'Weihenstephaner Gold'
 - e. *Sedum kamtschaticum* 'Variegatum'
 - f. *Sedum reflexum* 'Blue Spruce'
 - g. *Sedum rupestre* 'Angelina'
 - h. *Sedum spurium* 'Green Mantle'
 - i. *Sedum spurium* 'John Creech'
 - j. *Sedum spurium* 'Red Carpet'
 - k. *Sedum spurium* 'Summer Glory'
 - l. *Sedum spurium* 'Tricolor'
2. **Etera SedumTiles Shade Mix** – The mix of plants in this group are those that have demonstrated abilities to withstand the difficult conditions of shade. All sedums do best in higher light, but this group can tolerate low-light better than most. The SedumTiles shall consist of 6-8 of the following:
 - a. *Sedum acre* 'Aurea'
 - b. *Sedum hybridum* 'Immergrunchen'
 - c. *Sedum pachyclados*
 - d. *Sedum sexangulare*
 - e. *Sedum spurium* 'Album Superbum'
 - f. *Sedum spurium* 'Eco Mt Emei'

- g. *Sedum spurium* 'Fuldaglut'
 - h. *Sedum spurium* 'Green Mantle'
 - i. *Sedum spurium* 'John Creech'
 - j. *Sedum ternatum*
3. **Etera SedumTiles Tuff Stuff** – Sometimes particular places are unusually harsh and difficult for plants. The sedums in Tuff Stuff are the toughest, most durable, most drought-resistant choices available. They have proven ability to survive wind, cold, heat, drought, and tough environments that limit plant choices. The Sedum Tiles™ shall consist of 6-8 of the following:
- a. *Sedum album* 'Coral Carpet'
 - b. *Sedum cauticulum*
 - c. *Sedum ellacombianum*
 - d. *Sedum hybridum* 'Czar's Gold'
 - e. *Sedum kamtschaticum*
 - f. *Sedum middendorffianum diffusum*
 - g. *Sedum rupestre*
 - h. *Sedum sexangulare*
 - i. *Sedum spurium* sp.
 - j. *Sedum spurium* 'Roseum'
 - k. *Sedum spurium* 'Voodoo'
 - l. *Sedum stefco*
4. **Etera SedumTiles All Seasons Blend** – This mix provides flowers throughout the growing season. Winter interest and seasonal foliage color changes are also found in this group. This is a good, general purpose mix that provides year-round roof top beauty. The SedumTiles shall consist of 6-8 of the following:
- a. *Sedum album* 'Coral Carpet'
 - b. *Sedum hybridum* 'Immergrunchen'
 - c. *Sedum floriferum* 'Weihenstephaner Gold'
 - d. *Sedum middendorffianum diffusum*
 - e. *Sedum reflexum* 'Blue Spruce'
 - f. *Sedum spurium* 'Coccineum'
 - g. *Sedum spurium* 'Fuldaglut'
 - h. *Sedum spurium* 'John Creech'
 - i. *Sedum spurium* 'Red Carpet'
 - j. *Sedum spurium* 'Roseum'
 - k. *Sedum stefco*
 - l. *Sedum takesimensis* 'Golden Carpet'
 - m. *Sedum tetractinum* 'Coral Reef'

2.2 IRRIGATION

- A. Irrigation must be applied until the roots are established in the growing media on the roof (4-6 weeks after installation).
 - 1. Thoroughly water tiles immediately after installation.
 - 2. Deliver $\geq \frac{1}{4}$ " water, 2 times per week for the first 2 weeks.



3. Deliver $\geq \frac{1}{4}$ " water, 1 time per week for the next 2-4 weeks.

- B. Extended irrigation requirements are dependent upon project location, conditions, and plant selection. It is recommended that if a permanent irrigation system is not installed, that a backup system (such as hose bibs located on the roof) be available for use during prolonged periods of drought (>4 weeks with less than a total of $\frac{1}{4}$ " precipitation).

PART 3 EXECUTION

3.1 GENERAL

- A. Etera SedumTiles pre-vegetated mats shall be installed by qualified contractors with demonstrated experience and project references. The mats shall be installed in such a manner as to not damage or disturb any previously installed roofing components.

3.2 DELIVERY, STORAGE, AND HANDLING

- A. SedumTiles pre-vegetated mats shall be delivered in such a manner as to preserve the quality of the plants. Truck delivery will be conducted in a manner as to protect the vegetated mats from temperature or wind damage. For transport times less than 1 day, a closed or open trailer may be used. For longer duration transport times, vegetated mats must be delivered in a climate controlled trailer (e.g. refrigerated container).
- B. Upon arrival, the vegetative mats shall be immediately off-loaded and moved to a protected area. Ideally, the mats are to be installed within 24 hours of arrival.
- C. If installation is not possible in this time frame, then a holding area shall be reserved to store the vegetative mats until they can be installed.

1. Protect the mats from weather extremes.

a. If it is hot, move them to a shady location.

b. If harsh winter conditions exist, set them out of the wind and protect them from frost.

2. Store the mats outside if possible. Mats can be stored indoors for 1-2 days as long as they are kept cool. Do not store in a closed, hot storage container.

3. Two day's storage in the pallet shipper trays is acceptable while waiting for installation.

a. If more than two days are needed, the mats shall be unpacked and exposed to air and light

b. Once the mats are unpacked, water them thoroughly once every three days until they can be installed.

3.3 EXAMINATION

- A. Underlying roof components shall be installed and tested according to manufacturer guidelines.

- B. SedumTiles shall be examined for count and any damage that may be present. Any damage or discrepancy in tile count should be duly noted and photos taken of the damaged material. Etera Green Roof Plants shall be notified immediately with a complete description of any damage or missing tiles. Failure to notify Etera Green Roof Plants within 24 hours of delivery may result in a denial of any claim for damaged or missing tiles.

3.4 PREPARATION AND INSTALLATION

- A. Growth Media:
 - 1. Spread a minimum of 2 (*edit to requirements*) inches growing media over the green roof system.
 - 2. Level growing media with a large rake.
 - 3. Thoroughly wet the media before overlaying with vegetated mats.
- B. Etera SedumTiles Pre-Vegetated Mats:
 - 1. Install vegetative mats directly over freshly moistened growing media.
 - 2. Lay vegetative mats smoothly over the growth media, maintaining good overall contact with the media layer.
 - 3. Place mats close together, avoiding air gaps between them.
- C. The newly installed vegetated mats must be immediately and thoroughly watered.

3.5 WARRANTY

- A. Etera warrants that our products will conform to the description or pictures presented and will be viable when received. Since we have no control of plant growth once delivered, we give no other warranty, expressed or implied. Claims will be limited to the amount of the purchase price of the product and any applicable freight and royalty. Etera™ will not be held liable for consequential or incidental damages resulting from a shipment, such as: lost revenue, profit, commission, contamination, legal fees or any other damage

3.6 MAINTENANCE

- A. System installer shall maintain the vegetated roof for a period of at least [XXX] (*edit to requirements*) days from completion.
- B. Maintenance activities shall include:
 - 1. Water the vegetated roof system twice a week for the first two (2) weeks and once a week for the next 2-4 weeks to aid in root establishment. Water the system more frequently during extended periods of hot, dry weather conditions.
 - 2. Provide hand weeding as necessary.
 - 3. Replace areas of damaged plants or dead plants using sedum plugs or cuttings.

END OF SECTION