

## **Technical Specifications - Draincore2 Geocomposite Drainage Layer**

### **CSI Master Format 33 46 23.19 Geosynthetic Drainage Layer (Section 02622 Underdrain)**

#### **PART 1 - GENERAL**

##### **1.01 General Provisions**

- A. The Conditions of the Contract and all Sections of Division 1 are hereby made a part of this Section.

##### **1.02 Description of Work**

###### **A. Work Included:**

1. Provide and install subsurface excavation grading and compaction per Geotechnical Engineer's recommendations and/or as shown on drawings, to provide positive drainage and support for surfaces above. See 2.02 Materials.

2. Provide and install products, including Draincore2, geotextile filter fabric and/or geomembrane, and additional pipe and/or drainage structures as may be identified elsewhere in these plans and specifications.

###### **B. Related Work:**

1. Subgrade preparation under Section 02200-Earthwork.

##### **1.03 Quality Assurance**

- A. Follow Section 01340 requirements.

- B. Installation: Performed only by skilled work people with satisfactory record of performance on drainage or paving projects of comparable size and quality.

##### **1.04 Submittals**

- A. Submit manufacturer's product data and installation instructions.

- B. Submit a 10" x 10" section of Draincore2 material for review. Reviewed and accepted samples will be returned to the contractor.

- C. Submit 12" square samples of geotextile, and/or geomembrane, materials, along with technical specifications for review and approval.

##### **1.05 Delivery, Storage, and Handling**

- A. Protect Draincore2 units from damage during delivery and store under tarp for protection from sunlight when time from delivery to installation exceeds one week.

##### **1.06 Project Conditions**

- A. Review installation procedures and coordinate Draincore2 work with other work affected.

- B. All major subsurface and surface construction adjacent to Draincore2 areas, especially including utilities, must be completed prior to installation of Draincore2.

- C. Cold weather:

1. Do not use frozen materials or materials mixed or coated with ice or frost.
2. Do not build on frozen work or wet, saturated or muddy subgrade.
3. Do not unroll Draincore2 product when air temperatures are below 55 degrees F.

#### **PART 2 - PRODUCTS**

##### **2.01 Availability**

- A. Draincore2 - Manufacturer: Invisible Structures, Inc., 3510 Himalaya Road, Suite 200, Aurora, Colorado 80011; Telephone 303-233-8383

##### **2.02 Materials**

###### **A. Draincore2 Drainage Core Units**

1. Lightweight injection-molded plastic units 0.5x0.5x0.025m (20"x20"x1" high, 2.7 ft<sup>2</sup> each) with hollow rings rising from a strong open grid allowing maximum flow.
2. Unit weight = 510 g (18 oz.), volume = 8% solid.
3. The plastic shall be 100% pre-consumer recycled HDPE plastic resin, with minimum 3% carbon black.
4. Draincore2 is shipped in pre-assembled rolls that vary from 10 square meters (108 sf) to 50 square meters (1345 sf).
5. Male/Female Fastener Tensile Strength (from a Pull Test) is equal to 80,208 N/m (450 lbsf/in.)

6. Standard color is black.

*Any products failing to meet these standards will be rejected.*

B. Geotextile Fabrics and Geomembranes shall be supplied from reliable and proven sources, with known characteristics suitable to each specific application. These materials may be used to underlay, overlay, or surround the Draincore2 product, depending upon specific need.

### **PART 3 - EXECUTION**

#### **3.01 Inspection**

A. Examine subgrade and base course installed conditions. Do not start Draincore2 installation until unsatisfactory conditions are corrected. Check for improperly compacted trenches, debris, and improper gradients.

B. Installation constitutes acceptance of existing conditions and responsibility for satisfactory performance. If existing conditions are found unsatisfactory, contact Project Manager for resolution.

#### **3.02 Preparation**

A. Prepare base soils or granular fill materials to grades shown on plans, suitable for drainage application (as determined by Project Engineer). Allow 25 mm (1.0") for Draincore2 thickness.

B. Ensure that any vertical projections through the Draincore2 layer are properly protected from settlement, and/or water penetration (if critical) prior to placement of liners or Draincore2.

C. Ensure that any sharp objects on the subsurface are removed to avoid penetration of fabric or membrane liners. Keep the subsoil surface as smooth as possible while working.

#### **3.03 Installation of Draincore2 Units**

A. Install the underlayment liner (fabric or membrane), if called for, over the prepared subgrade, according to manufacturer's guidelines for seams, joints, bonding, etc.

B. Install the Draincore2 units by placing units with rings facing down / grid-side up, using connectors provided to maintain proper spacing and interlock the units. Units can be easily shaped, or rings and grid removed, with pruning shears or knife. Units placed on slopes and vertical surfaces shall be secured as appropriate to maintain units in place.

C. Place overlay liner (fabric or membrane) as specified by Designer, according to manufacturer's guidelines.

D. Place cover material (landscaping, backfill, flooring, pavement, etc.) on top of the overlay liner as specified by the Designer, taking care to avoid punctures or dislodging of the liner.

END OF SECTION

If you have any questions regarding this specification, please call Invisible Structures, Inc., 303-233-8383.

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