

*This section includes a manufacturer's guide specification for EPS Geof foam™ geotechnical concrete structure protection. Refer also to manufacturer's Product Description for detailed product properties, options, and other technical information. This section includes performance, proprietary, and descriptive type specifications; edit to avoid conflicting requirements.*

**Part 1            General**

**1.1                SECTION INCLUDES**

- .1        Lightweight polystyrene fill for use under concrete and earth structures.

**1.2                RELATED SECTIONS**

*The following paragraph describes a bid document in the Document 00 documents; a geotechnical report is not a contract document.*

- .1        Document 00320 - Subsurface Investigation Report: Geotechnical report; bore hole locations and findings of subsurface materials.
- .2        Section 02055 - Soil Materials.
- .3        Section 02060 - Aggregate Materials.
- .4        Section 02311 - Rough Grading.
- .5        Section 02316 - Excavating.
- .6        Section 02317 - Trenching: Backfilling of utility trenches.
- .7        Section 03300 - Cast-in-Place Concrete: Concrete materials.

**1.3                REFERENCES**

*List reference standards that are included within the text of this section. Edit the following as required to parallel any reference standards statements within this section.*

- .1        ASTM E84-04 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- .2        ASTM D6817-02 – Standard Specification for Rigid Cellular Polystyrene Geof foam.

**1.4                SUBMITTALS**

*Do not request submittals if drawings sufficiently describe the products of this section or if proprietary specifying techniques are used. The review of submittals increases the possibility of unintended variations to drawings, thereby increasing the Specifier's liability. The following submittals are intended for review and acceptability.*

- .1        Section [01300] [01 33 00]: Submission procedures.
- .2        Product Data: Submit product data sheets in accordance with Section [01300] [01 33 00].
- .3        Samples:

- .1 Submit samples for verification in accordance with Section [01300] [01 33 00].
- .2 Submit 200 mm (8 inch) square pieces of foam material.
- .4 Installation Data: Special installation requirements.

## **1.5 QUALITY ASSURANCE**

- .1 Manufacturer: ISO 9001:2000 registered company.
- .2 Perform Work in accordance with manufacturer's instructions.

## **1.6 DELIVERY, STORAGE, AND PROTECTION**

- .1 Section [01600] [01 61 00]: Transport, handle, store, and protect products.
- .2 Deliver, store and handle materials in accordance with manufacturer's written instructions.
- .3 Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- .4 Store materials off ground, protected from direct sunlight if product is to be exposed for one month or more.
- .5 Remove damaged or deteriorated Products from site.

## **1.7 ENVIRONMENTAL REQUIREMENTS**

- .1 Section [01600] [01 61 00]: Environmental conditions affecting products on site.

## **1.8 MANUFACTURER'S INSTRUCTIONS**

- .1 Comply with manufacturer's product data.

## **Part 2 Products**

### **2.1 LIGHTWEIGHT FILL MATERIALS**

### **2.2 MANUFACTURERS:**

- .1 Beaver Plastics: Product "GEOFOAM".
- .2 Substitutions: [Refer to Section 01600.] [Not permitted.] [Refer to Instructions to Bidders.]

### **2.3 MATERIALS**

- .1 Polystyrene Blocks: Rigid closed cell, expanded polystyrene (EPS).
  - .1 Type, to ASTM D6817: [EPS 12.] [EPS 15.] [EPS 19.] [EPS 22.] [EPS 29.]
  - .2 Density: [11.2 kg/m<sup>3</sup> (0.70 lb/ft<sup>3</sup>).] [14.4 kg/m<sup>3</sup> (0.90 lb/ft<sup>3</sup>).] [18.4 kg/m<sup>3</sup> (1.15 lb/ft<sup>3</sup>).] [21.6 kg/m<sup>3</sup> (1.35lb/ft<sup>3</sup>).] [28.8 kg/m<sup>3</sup> (1.80 lb/ft<sup>3</sup>).]

- .3 Compressive Strength @ 1% deformation: [15 kPa (2.2 psi).] [25 kPa (3.6 psi).]  
[40 kPa (5.8 psi).] [50 kPa (7.3 psi).] [75 kPa (10.9 psi).]
- .4 Panel size:
  - .1 Thickness: [75 mm (3 inches).] [610 mm (24 inches).]
  - .2 Width: 1220 mm (4 feet) panels.
  - .3 Length: [2440 mm (8 feet).]
- .5 Flame Spread Index/ Smoke Developed Index: Less than 25/450 to ASTM E84.

## **2.4 ACCESSORIES**

- .1 Gripper Plates: Galvanized steel plates with two-sided multi-barbed design.
- .2 Geotextile Fabric: Non-biodegradable, [woven] [non-woven], [\_\_\_\_\_];  
[\_\_\_\_\_] manufactured by [\_\_\_\_\_].

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Verify substrate conditions installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
- .2 Report adverse conditions to Consultant. Do not proceed with installation until adverse conditions are corrected.

### **3.2 PREPARATION**

- .1 Clear and grub site.
- .2 Excavate existing soil and dewater as required.
- .3 Compact subgrade to density requirements.
- .4 Place geotextile over graded surface if specified.
- .5 Place sand pad/leveling course over the prepared surface, 50 mm (2") thickness minimum. Level to +/-10 mm over 3 meters (1/2" per 10') horizontal.

### **3.3 INSTALLATION – LIGHTWEIGHT FILL**

- .1 Place foam blocks tightly on prepared sand pad/leveling course.
- .2 For multiple layer application, orient successive layers of blocks at 90° to previous layer. Offset block joints between layers.
- .3 Restrain foam blocks with gripper plates, [2] [\_\_\_] plates per block.

### **3.4 BACKFILLING**

- .1 Backfill over foam blocks as per Section [\_\_\_\_\_].

**3.5 FIELD QUALITY CONTROL**

- .1 Section 01400 - Quality Requirements: Field inspection and testing.
- .2 Manufacturer's Field Services: Upon Owner's request, provide manufacturer's field service consisting of periodic site visit for inspection of product.

[OR]

- .3 Manufacturer's Field Services: Provide [\_\_\_] site visits during installation of foam blocks.

**3.6 PROTECTION OF FINISHED WORK**

- .1 Protect finished Work to Section [01300.] [\_\_\_\_\_].
- .2 Protect installed product and finish surfaces from damage during construction
- .3 Repair or replace damaged installed products.
- .4 Remove construction debris from project site and dispose of debris.

**END OF SECTION**