

Product Name

GEOFOAM Associated Specification Section

MasterFormat 1995 # 02321

MasterFormat 2004 # 31 23 23.43

Manufacturer's Name

Beaver Plastics

Sept 30, 2004

Page 1

PRODUCT DESCRIPTION

PRODUCT FEATURES

- BASIC USES / RELATED USES
 - Lightweight closed-cell polystyrene fill used in geotechnical applications to reduce settlement and/or enhance soil stability.
 - A compressible inclusion under concrete and earth structures.
 - Pavement insulation to protect against frost heave and subgrade stress and deformation.
 - Utility protection for buried pipe, culverts, ducts, retaining walls and other below grade concrete structures.

- PRODUCT ATTRIBUTES AND CHARACTERISTICS
 - Lightweight soil replacement material:
 - 50 to 100 times lighter than soil.
 - Reduces settlement and enhances soil stability where subgrade cannot support anticipated loads using standard fill materials
 - Prevents large earth structures built on side slopes from shifting, sliding or compressing underlying ground.
 - Reduces vertical stresses and lateral forces on structures and retaining walls.
 - Reduces weight on underground structures like pedestrian, road and rail underpasses, and subway transportation tunnels.
 - Compressible inclusion under concrete and earth structures, absorbing frost and moisture induced swelling of underlying soil.
 - Protects underlying culverts, ducts, pipelines and other buried materials against unacceptable levels of stress, while preventing movement or subsidence of the overlying structure.
 - Provides vibration damping and thermal insulation.
 - Freeze/thaw resistant and low moisture absorption.
 - Contains no CFCs, HCFCs, or other refrigerant gases.
 - Biologically inert and will not support mould, mildew or fungus growth.
 - Contains a chemical additive to inhibit accidental ignition from a small fire source.
 - Non-toxic and hypo-allergenic.

- SELECTION CRITERIA
 - Product is available in blocks measuring 2' x 4' x 8' and custom sheet sizes, in a range of

Product Name

GEOFOAM Associated Specification Section

MasterFormat 1995 # 02321

MasterFormat 2004 # 31 23 23.43

Manufacturer's Name

Beaver Plastics

Sept 30, 2004

Page 2

PRODUCT DESCRIPTION

densities, and custom sheet sizes are available on request.

- **APPLICABLE STANDARDS, RELATED REFERENCES**
 - ASTM E84-04 – Standard Test Method for Surface Burning Characteristics of Building Materials.
 - ASTM D6817-02 – Standard Specification for Rigid Cellular Polystyrene Geofoam.
- **QUALITY STATEMENT, TESTS, CERTIFICATIONS, AND APPROVALS**
 - Product certified under Warnock Hershey Third Party Certification Program.
 - ISO 9001:2000 Registered Company (Quality Certification Bureau #94-41).
- **PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS**
 - GEOFOAM must be protected from damage during transit.
 - Pile void form material on raised platforms and protect from UV degradation during storage and after erection, if product is to be exposed for one month or more.
 - Provide ballast in windy conditions.
- **LIMITATIONS**
 - GEOFOAM is a solid foam product and does not collapse, exerting ever-increasing levels of force against concrete structures as soil expansion occurs. It should not be used for grade beams that have not been designed to absorb the stress transmitted by solid void materials.
 -
 - Uplift buoyancy force must be counteracted with overburden or restraint devices, such as geogrids, geomembranes, or other hold down devices.
 - Product must be protected from exposure to hydrocarbons, highly solvent extended mastic and coal tar pitch.
 - Product will burn when exposed to large continuous flame.
- **SAFETY PRECAUTIONS**
 - Normal fire precautions and good housekeeping methods must be followed during storage and application.
- **AVAILABILITY**
 - Available direct from Beaver Plastics.

Product Name

GEOFOAM Associated Specification Section

MasterFormat 1995 # 02321

MasterFormat 2004 # 31 23 23.43

Manufacturer's Name

Beaver Plastics

Sept 30, 2004

Page 3

PRODUCT DESCRIPTION

- COST
 - Varies with substrate condition and configuration, and specific application requirements.
 - Consult manufacturer national or regional offices for specific product costs or relative costs.

PRODUCT PROPERTIES

- MATERIALS, COMPOSITION, PROPERTIES
 - Technical Properties
 - Rigid closed cell, expanded polystyrene (EPS) blocks.
 - Flame Spread Index/ Smoke Developed Index: Less than 25/450 to ASTM E84.

Type ASTM D6817	EPS 12	EPS15	EPS19	EPS22	EPS29
Density, min. kg/m ³ (lb/ft ³)	11.2 (0.70)	14.4 (0.90)	18.4 (1.15)	21.5 (1.35)	28.8 (1.18)
Water Absorption by total immersion, max., volume %	4.0	4.0	3.0	3.0	2.0
Compressive Resistance at 1% deformation, min. kPa (psi)	15 (2.2)	25 (3.6)	40 (5.8)	50 (7.3)	75 (10.9)
Compressive Resistance at 5% deformation, min. kPa (psi)	35 (5.1)	55 (8.0)	90 (13.1)	115 (16.7)	170 (24.7)

- DIMENSIONS
 - Standard sizes available:

THICKNESS	NOMINAL WIDTHS*	LENGTH
75 mm to 610 mm (3" to 24")	1220 mm (48")	Up to 2440 mm (8')

*Other sizes and fabrication can be provided by the manufacturer.

PRODUCT PLACEMENT

- PREPARATION
 - Clear and grub site.
 - Excavate existing soil and dewater as required.
 - Place geotextile over graded surface if specified.

Product Name

GEOFOAM Associated Specification Section
MasterFormat 1995 # 02321
MasterFormat 2004 # 31 23 23.43

Manufacturer's Name

Beaver Plastics

Sept 30, 2004

Page 4

PRODUCT DESCRIPTION

- Place a 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.

- **INSTALLATION**
 - Place GEOFOAM blocks tightly on prepared sand pad/leveling course.
 - If installing multiple layers, orient successive layers of blocks at 90° to previous layer. Offset block joints between layers.

- **MAINTENANCE INSTRUCTIONS AND PROCEDURES**
 - Product should not be exposed to volatile hydrocarbons and anhydrous acids, which may attack the expanded polystyrene.

Corporate Identification

Beaver Plastics
12150 – 160 Street
Edmonton, Alberta, Canada T5V 1H5

Phone 1-780-453-5961 (International)
Toll free: 1-888-453-5961 (U.S. and Canada)
Fax 1-780-453-3955
Internet web site: <http://www.beaverplastics.com>
E-mail: techsupport@beaverplastics.com

Technical Services Available

Phone toll free or e-mail

Classification and Filing

MasterFormat 2004:
31 23 34.43 – Lightweight Foam Fill for Soils

MasterFormat 1995:
02321 – Lightweight Foam Fill for Soils

UniFormat 1998:
A1030 – Subdrainage Systems

END