

Product Name

TERRAFOAM® EPS HS-40

Associated Specification Section

MasterFormat 2011 # 07 21 13

Manufacturer's Name

Beaver Plastics

September 24, 2011

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PRODUCT DESCRIPTION

PRODUCT FEATURES

- DESCRIPTION
 - Closed cell high density expanded polystyrene (HDEPS) insulation suitable for high load compressive strength applications.
- USES
 - Geotechnical and other below grade applications:
 - Perimeter and under slab insulation.
 - Highway and railroad bed construction.
 - Airport runways, taxiways, and aprons.
 - Large earth structures, ramps, and beams.
 - Isolating bearing pads under heavy process equipment and industrial traffic.
 - Frost protected shallow foundations.
 - Ice arena and snow melt systems.
 - Buoyancy billets.
 - Above grade applications:
 - In conjunction with above grade construction.
 - Masonry and cavity wall construction.
 - Roof insulation, including tapered modules for slope-to-drain.
 - Exterior Insulated Finish Systems (EIFS).
- PRODUCT ATTRIBUTES AND CHARACTERISTICS
 - Excellent resistance to freeze/thaw cycles.
 - Low moisture absorption properties.
 - Breathable, allowing transmission of water vapour.
 - Contains no CFCs, HCFCs, or other refrigerant gases.
 - Biologically inert. Will not support mould, mildew or fungus growth. Not a food source for pests.
 - Contains a chemical additive to inhibit accidental ignition from a small fire source.
 - Non-toxic and hypo-allergenic. Does not off-gas.
 - The insulation value (R-Value) increase as temperature decreases. Does not lose insulation value over time.

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PRODUCT DESCRIPTION

- **SELECTION CRITERIA**
 - Suitable for cold climate applications, where soil is prone to heaving.
 - Can be used for buoyancy in sea and fresh water.
 - Available in two standard board sizes, in any thickness up to 610 mm (24 inches).
 - Available in flat sheet form or custom profiles.
 - Minimum and maximum slab thicknesses:

- **SUSTAINABILITY CRITERIA**
 - Contains recycled content and can contribute to LEED Material and Resources Credit 4 – Recycled Content.
 - Manufactured in Edmonton and Vancouver, Canada and may contribute to LEED Material and Resources Credit 5 – Regional Materials.
 - Contains no CFC or HCFC gasses; does not contribute to ozone depletion.
 - Non-toxic; does not irritate skin on exposure.
 - Biologically inert and will not support mould, mildew or fungus growth or pests.

- **APPLICABLE STANDARDS, RELATED REFERENCES**
 - ASTM C177 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
 - ASTM C578 – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
 - ASTM D1621 - Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
 - ASTM D2842 - Standard Test Method for Water Absorption of Rigid Cellular Plastics.
 - ASTM E96 - Standard Test Methods for Water Vapor Transmission of Materials.
 - CAN/ULC-S701 – Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.

- **QUALITY STATEMENT, TESTS, CERTIFICATIONS, AND APPROVALS**
 - Canadian Construction Material Centre (CCMC): CCMC #12982-L.
 - ISO 9001:2000 Registered Company (Quality Certification Bureau #94-41).
 - Performance tests certified by Intertek Testing Services Ltd.

- **PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS**
 - Panels must be protected from damage during transit.
 - Panels must be protected from UV degradation during storage and after erection.

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PRODUCT DESCRIPTION

- Do not expose to volatile hydrocarbons, such as fuel oils, gasoline, and alcohols.
- **LIMITATIONS**
 - Degrades with lengthy exposure to ultra-violet rays.
 - Product will burn when exposed to large continuous flame.
 - Anhydrous acids (such as sulphuric and formic acid) may attack expanded polystyrene.
- **SAFETY PRECAUTIONS**
 - Normal fire precautions and good housekeeping methods must be followed during storage and application.
- **AVAILABILITY**
 - Available direct from Beaver Plastics' or appointed distributors.
- **COST**
 - Varies with substrate condition and configuration, and relative size of building.
 - Consult manufacturer or distributors for specific product costs or relative costs.

PRODUCT PROPERTIES

- **MATERIALS, COMPOSITION, PROPERTIES**
 - Technical Properties
 - Rigid, closed cell, expanded polystyrene (EPS) board, to ASTM C578 Type XIV, and exceeds CAN/ULC S701 Type 2.

PHYSICAL PROPERTY	METRIC	IMPERIAL
Compressive Strength (ASTM D1621)	276 kPa (min)	40 psi (min)
Thermal Resistance (ASTM C578)	RSI .87 @ -10°C	R-5 @ 15°F
	RSI .75 @ 24°C	R-4.3 @ 75°F
Flexural Strength	414 kPa (min)	60 psi (min)
Water Vapour Permeance (ASTM E96)	143 ng/Pa.s.m ² (max)	2.5 perm (max)
Water Absorption (ASTM D2842)	1% maximum	1% maximum

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Dimensional Stability	1% maximum	1% maximum
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- ACCESSORIES
 - Adhesives and/or insulation fasteners.
- DIMENSIONS
 - Thickness: Any thickness up to 610 mm (24 inches).
 - 610 x 1220 mm (2' x 4') panels.
 - 1220 x 2440 mm (4' x 8') panels.
 - Thickness: Any thickness up to 610 mm (24 inches).
 - Profiles: Shiplapped edges, batten slots, and other custom profiles can be produced.

PRODUCT PLACEMENT

- PREPARATION
 - Surfaces must be dry and ready to receive insulation.
- INSTALLATION
 - Install products in accordance with the manufacturer's instructions for each specific application.
 - Cover exposed insulation with a finish acceptable to local building authorities.
- MAINTENANCE INSTRUCTIONS AND PROCEDURES
 - Product should not be exposed to volatile hydrocarbons and anhydrous acids, which may attack the expanded polystyrene.

Corporate Identification

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Technical Services Available

Phone toll free or e-mail

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PRODUCT DESCRIPTION

Classification and Filing

OmniClass Table 23 - Products

23-20 50 24 11 11 11 Expanded Polystyrene Slab and Board Thermal Insulation

MasterFormat 2011:

07 21 13 – Board Insulation

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07212 – Board Insulation

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