

**Product Name**

TERRAFOAM® PLATINUM® INSULATION WITH GRAPHITE

**Associated Specification Section**

MasterFormat 2011 # 07 21 13

**Manufacturer's Name**

Beaver Plastics

February 20, 2012

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**PRODUCT DESCRIPTION****PRODUCT FEATURES****● DESCRIPTION**

- Closed cell expanded polystyrene (EPS) insulation with graphite.

**● USES**

- Below grade applications:
  - Perimeter insulation for grade beams and foundation walls.
  - Insulation under concrete slabs and crawlspaces.
  - Frost protected shallow foundations.
  - Ice arenas and snow melt systems.
- Above grade applications:
  - Masonry and other cavity wall construction assemblies.
  - Roof insulation, including sloped, flat, and tapered applications.
  - Coolers, freezers, and ice arenas.

**● PRODUCT ATTRIBUTES AND CHARACTERISTICS**

- Excellent resistance to freeze/thaw cycles.
- Low moisture absorption.
- Contains no CFCs, HCFCs, or other refrigerant gases. Does not lose insulation value over time.
- 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) increases as temperature decreases.
- Can contribute to LEED Requirements for low-emitting materials. Terrafoam Platinum 3000 type 4 can also contribute to LEED Requirements for recycle content.

**● SELECTION CRITERIA**

- Suitable for cold climate applications, where soil is prone to heaving.

**● SUSTAINABILITY CRITERIA**

- Manufactured near Acheson, AB and Chilliwack, BC, Canada.
- Contains no CFC or HCFC gasses; does not contribute to ozone depletion or global warming (contains only air). Air is blowing agent.
- Non-toxic; does not irritate skin.

**● APPLICABLE STANDARDS, RELATED REFERENCES**

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**PRODUCT DESCRIPTION**

- ASTM C272 – Standard Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions.
- ASTM C578 – Standard Specification for Rigid, Cellular Polystyrene Thermal Insulation.
- ASTM E96 – Standard Test Methods for Water Vapor Transmission of Materials. Transmission Properties by Means of the Guarded-Hot-Plate Apparatus.
- ASTM E84 – Standard Test Method for Surface Burning Characteristics of Building Materials.
- ASTM D1621 – Standard Test Method for Compressive Properties of Rigid Cellular Plastics.
- ASTM D2842 – Standard Test Method for Water Absorption of Rigid Cellular Plastics.
- CAN/ULC-S701 – Standard for Thermal Insulation, Polystyrene, Boards and Pipe Covering.
- UL 723 – Tests for Surface Burning Characteristics of Building Materials.
- **QUALITY STATEMENT, TESTS, CERTIFICATIONS, AND APPROVALS**
  - Canadian Construction Materials Centre (CCMC): CCMC #12982-L.
  - Performance tests certified by Intertek Testing Services Ltd.
  - ISO 9001:2000 Registered Company (Quality Certification Bureau #94-41).
- **PACKAGING, HANDLING, PROTECTION, AND DELIVERY INSTRUCTIONS**
  - Must be protected from damage during transit.
  - Must be protected from UV degradation during storage and after erection.
  - Do not expose to volatile hydrocarbons, such as fuel oils, gasoline, alcohols.
- **LIMITATIONS**
  - Slowly degrades after lengthy exposure to ultra-violet rays.
  - Product will burn when exposed to large continuous flame.
  - Anhydrous acids (such as sulphuric and formic acid) may degrade product.
- **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.

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**PRODUCT DESCRIPTION****PRODUCT PROPERTIES**

## ● MATERIALS, COMPOSITION, PROPERTIES

## ○ Thermal Insulation Values

Type & Compressive Strength	RSI and R-Values at Various Temperatures For 25 mm Thickness				CAN/ULC S701 Requirements	
	<b>Terrafoam Platinum Type 1</b> 70 kPa – (10 psi)	0.76 @ 24°C (4.34 @ 75°F)	0.81 @ 10°C (4.58 @ 50°F)	0.83 @ 5°C (4.69 @ 40°F)	0.86 @ -5°C (4.88 @ 23°F)	<b>Type 1</b>
<b>Terrafoam Platinum Type 2</b> 110 kPa – (16 psi)	0.80 @ 24°C (4.53 @ 75°F)	0.84 @ 10°C (4.78 @ 50°F)	0.86 @ 5°C (4.88 @ 40°F)	0.89 @ -5°C (5.06 @ 23°F)	<b>Type 2</b>	0.70 @ 24°C (3.97 @ 75°F)
<b>Terrafoam Platinum Type 3</b> 140 kPa – (20 psi)	0.81 @ 24°C (4.59 @ 75°F)	0.85 @ 10°C (4.81 @ 50°F)	0.87 @ 5°C (4.90 @ 40°F)	0.89 @ -5°C (5.07 @ 23°F)	<b>Type 3</b>	0.74 @ 24°C (4.20 @ 75°F)
<b>Terrafoam Platinum 3000</b> 210 kPa – (30 psi)	0.83 @ 24°C (4.69 @ 75°F)	0.86 @ 10°C (4.91 @ 50°F)	0.88 @ 5°C (5.01 @ 40°F)	0.91 @ -5°C (5.18 @ 23°F)	<b>Type 4</b>	0.86 @ 24°C (4.88 @ 75°F)

## ○ Technical Properties

PHYSICAL PROPERTY	TERRAFOAM PLATINUM TYPE 1	TERRAFOAM PLATINUM TYPE 2	TERRAFOAM PLATINUM TYPE 3	TERRAFOAM PLATINUM® 3000
<b>Flexural Strength (min) (kPa)</b> ASTM C203	170	240	300	350
<b>Recycle Content</b>	n/a	n/a	n/a	20% Pre-Consumer
<b>Water Vapour Permeance (max) (ng/Pa.s.m<sup>2</sup>)</b> ASTM E96M	300	200	130	130
<b>Water Absorption (max) (% by volume)</b> ASTM C272	6	4	2	1.9
<b>Dimensional Stability (max) (% linear change)</b>	1.5	1.5	1.5	1.5

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**PRODUCT DESCRIPTION**

<b>Limiting Oxygen Index (min) (%)</b>	24	24	24	24
<b>Fire Performance (max) ASTM E84</b>	Flame Spread: 25 Smoke Developed: 450	Flame Spread: 25 Smoke Developed: 450	Flame Spread: 25 Smoke Developed: 450	Flame Spread: 25 Smoke Developed: 450

- ACCESSORIES

- Adhesives, insulation fasteners.

- DIMENSIONS

- Thickness: Any thickness from 12 mm to 762 mm (1/2" – 30").
- Standard board sizes:
  - 610 x 1220 mm (2' x 4') panels.
  - 1220 x 2440 mm (4' x 8') panels.
- Profiles: Square or shiplap edges, drainage slots, furring slots, and other custom profiles can be provided.

**PRODUCT PLACEMENT**

- 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 incompatible with aromatic, aliphatic hydrocarbons, esters, amines, or anhydrous acids, which could cause degradation.

**Corporate Identification**

Beaver Plastics Ltd.  
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**Technical Services Available**

Phone toll free or e-mail

**Classification and Filing**

UniFormat 2010

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**PRODUCT DESCRIPTION**

A2010	Walls for Subgrade Enclosures
A2010.90	Subgrade Enclosure Wall Supplementary Components
A4090.10	Perimeter Insulation
B1010	Floor Construction
B1010.90	Floor Construction Supplementary Components
B1020	Roof Construction
B1020.90	Roof Construction Supplementary Components
B2010	Exterior Walls
B2010.10	Exterior Wall Veneer
B2010.20	Exterior Wall Construction
B2010.40	Fabricated Exterior Wall Assemblies
B2010.80	Exterior Wall Supplementary Components
B3010	Roofing
B3010.10	Steep Slope Roofing
B3010.50	Low-Slope Roofing
B3010.90	Roofing Supplementary Components
B3040	Traffic Bearing Horizontal Enclosures
B3040.30	Horizontal Waterproofing Membrane
B3040.90	Horizontal Enclosure Supplementary Components
B3080	Overhead Exterior Enclosures

OmniClass 2010 Table 23 - Products

23-13 25 19	Thermal Insulation
23-13 25 19 11	Slab and Board Thermal Insulation
23-13 25 19 11 11	Polystyrene Slab and Board Thermal Insulation
23-13 25 19 11 11 11	Expanded Polystyrene Slab and Board Thermal Insulation
23-13 39 31	Roof Membranes
23-35 20 21 11	Single Layer Roof Membranes
23-35 20 21 13	Multi Layer Roof Membranes
23-19 31 19 13	Insulated Rooms
23-19 31 19 13 11	Cold Storage Rooms

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07 21 13	– Board Insulation
07 21 13.13	– Foam Board Insulation
07 22 00	– Roof and Deck Insulation
07 24 00	– Exterior Insulation and Finish Systems
07 50 00	– Membrane Roofing
07 51 00	– Built-Up Roofing
07 52 00	– Modified Bituminous Membrane Roofing
07 53 00	– Elastomeric Membrane Roofing
07 54 00	– Thermoplastic Membrane Roofing
07 55 00	– Protected Membrane Roofing
07 55 63	– Vegetated Protected Membrane Roofing

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**PRODUCT DESCRIPTION**

MasterFormat 1995:

07213 – Board Insulation

**END**