

TERRAFOAM® PLATINUM®

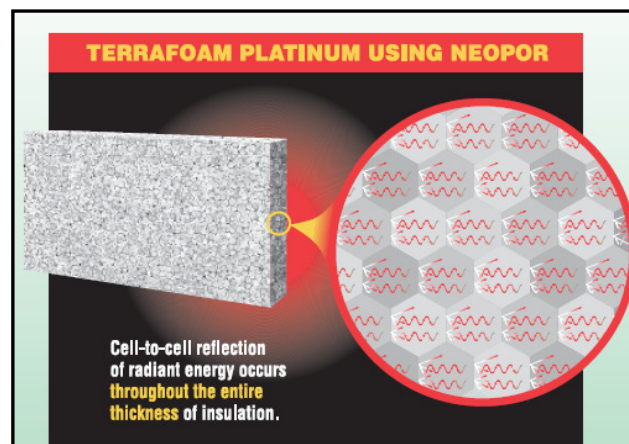
EXPANDED POLYSTYRENE INSULATION *with GRAPHITE*

Product Description

TERRAFOAM® PLATINUM®⁽¹⁾ is an environmentally superior polystyrene insulation product made from a new polymer from BASF SE called NEOPOR®. It provides higher thermal insulation performance without using HFC blowing agents that may contribute to global warming. TERRAFOAM PLATINUM contains a graphite additive that does not off-gas or degrade, providing permanent thermal performance as compared to some competing polystyrene products that may retain only 90% of stated R-values through the release of insulating blowing agents.

The Technology

NEOPOR is a patented polymer used to produce thermal insulation for the construction industry. This unique material attributes its distinctive silver-gray color to graphite contained within the polymer matrix of the EPS. The graphite particles both reflect and absorb radiant energy, thereby increasing the insulation capacity, or R-value, by as much as 20%, while retaining all of the performance benefits inherently found in standard white EPS. This reduction of radiant energy transmission occurs within the insulation itself. Neopor is used worldwide in insulation applications where cost-effectiveness, quality and sustainability are priorities. Beaver Plastics is licensed to use the NEOPOR polymer to produce insulation products for walls, below grade, under slabs, roofs, high stress geotechnical applications, exterior insulation and finish systems (EIFS) and Insulated Concrete Forms (LOGIX PLATINUM ICF).



Economic and Environmental Performance

TERRAFOAM PLATINUM leads in exceeding environmental standards. It is rated above all other polystyrene insulation products as measured by long-term thermal efficiency, cost, embodied energy, resource conservation, environmental protection and waste management. Meeting these criteria supports sustainable building practices.

- The Global Warming Potential of the blowing agent used in XPS is more than 1400 times the potency of carbon dioxide. Pentane is the blowing agent used in EPS. Pentane's GWP is 7, with a half-life of 2 days, as it degrades in the atmosphere. ⁽²⁾
- TERRAFOAM PLATINUM is more energy efficient than XPS over the long term. The permanent R-value of 'PLATINUM' is established after the pentane blowing agent has dispersed, with the closed cells then containing ordinary air. XPS products must have R-values tested after a minimum of 6 months aging, as their thermal effectiveness decreases with loss of blowing agent. This decrease in thermal value likely continues beyond the 6 month aging period.
- TERRAFOAM PLATINUM has far less embodied energy than XPS products, as XPS is transported from Eastern Canada or the United States. TERRAFOAM PLATINUM is made in Edmonton and Vancouver.
- Beaver Plastics can produce "jobsite ready" sizes. This means custom lengths, widths, or thickness, or tapered, are available. This will reduce jobsite labour as well as waste for the jobsite dumpster, ending up as landfill. (XPS insulation manufacturers have a large volume of product in their supply chain, and therefore rarely can make changes to normal product dimensions).
- Beaver Plastics will "ship naked" on request. This means eliminating polyethylene wrap. Many projects do not need protective wrapping with the associated waste of resources and expense of disposal. XPS products are shipped fully wrapped.
- Information specific to **LEED** is available on our TERRAFOAM PLATINUM Product Specification bulletin. Download from our website at <http://www.beaverplastics.com/Insulation/terrafoamPlatinum.html>.

Thermal Insulation Values

Types & Compressive Strengths	RSI and R-Values at Various Temperatures For 25 mm thicknesses				CAN/ULC-S701-11 Requirements	
	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)	TYPE 1	0.65 @ 24°C (3.70 @ 75°F)
TERRAFOAM PLATINUM TYPE 1 70 kPa – (10 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)	TYPE 2	0.70 @ 24°C (3.97 @ 75°F)
TERRAFOAM PLATINUM TYPE 2 110 kPa – (16 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)	TYPE 3	0.74 @ 24°C (4.20 @ 75°F)
TERRAFOAM PLATINUM TYPE 3 140 kPa – (20 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)	TYPE 4	0.86 @ 24°C (4.88 @ 75°F)
TERRAFOAM PLATINUM 3000 210 kPa - (30 psi)						

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Material Properties

Property	PLATINUM Type 1	PLATINUM Type 2	PLATINUM Type 3	PLATINUM 3000
Water Vapour Permeance, max, ng/Pa.s.m ²	300	200	130	130
Dimensional Stability, max, % linear change	1.5	1.5	1.5	1.5
Flexural Strength, min, kPa	170	240	300	350
Water Absorption, max, % by volume	6	4	2	1.9
Limiting Oxygen Index, min, %	24	24	24	24

Complete product descriptions and specifications are available at www.beaverplastics.com

Sizes, Special Profiles and Packaging

Available in standard sizes from 610x1220 (2'x4') to 1220x2440 mm (4'x8') panels, up to 750 mm (30") thick. Special dimensions and customer-designed profiles are available with short lead times.



Neopor® can be used to improve energy efficiency in virtually all residential, commercial and institutional insulation applications.



ISO 9001
QMI-SAI Global

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(1) The "PLATINUM" designation in TERRAFOAM PLATINUM is used by permission of LOGIX ICF LTD
(2) <http://www.buildinggreen.com/live/index.cfm/2010/6/1/Avoiding-the-Global-Warming-Impact-of-Insulation>