Beaver Plastics

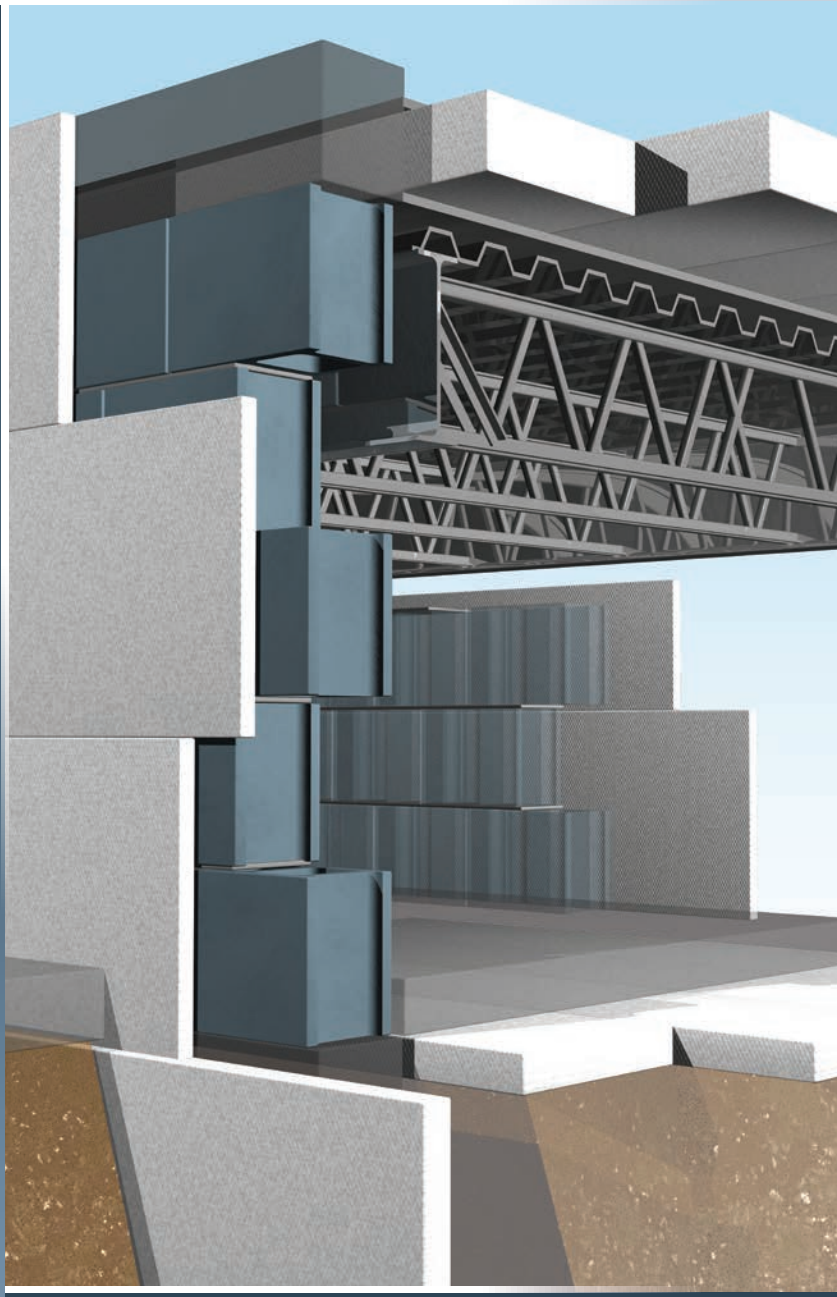
TERRAFOAM® HIGH STRENGTH

Expanded Polystyrene Insulation

TERRAFOAM® HS is a closed cell high compressive resistant polystyrene insulation product used for geotechnical service. It should be used wherever large slab loads or lateral earth forces would compress typical insulation products.

TERRAFOAM HS provides stable thermal performance for the life of the structure, without using blowing agents that contribute to global warming. It is totally CFC and HCFC free. TERRAFOAM® HS can be used in low temperature applications such as freezers and coolers, under streets and highways, airport taxiways, bridge abutments and approach slabs, plaza decks, underground parking structures, and skating arenas and curling ice. Contact Beaver Plastics for specific design considerations.

The Terrafoam HS30, 40, 60 and 100 designations indicate maximum compressive strength in PSI. However, these values are the result of a standard test used for quality control and for monitoring manufacturing processes used throughout the polystyrene insulation industry. All extruded and expanded polystyrene products are subject to high rates of creep under sustained loading, and therefore conservative compressive resistance values should be used wherever long term creep cannot be tolerated. For static loading, a safety factor of 1:3 is reasonable. A dynamic load calculation may use a safety reduction factor of 1:5. Consult Beaver Plastics when using our High Strength products for large volume earth displacement projects.



- HS30 (psi)
- HS40 (psi)
- HS60 (psi)
- HS100 (psi)

PERFORMANCE PROPERTIES FOR TERRAFOAM HIGH STRENGTH SERIES

Standard Specification		ASTM Method	Terrafoam HS 30	Terrafoam HS 40	Terrafoam HS 60	Terrafoam HS 100
		C578-14	Type IX	Type XIV	Type XV	Type V
Compressive Strength, min.	psi kPa	D1621	30 210	40 275	60 415	100 690
Water Absorption, max.	% by volume	D2842	1.0%	1.0%	1.0%	1.0%
Water Vapour Permeance, max.	perms ng/PA.s.m^2	E96	2.5 143	2.5 143	2.5 143	2.5 143
Water Capillarity	–	–	None	None	None	None
Water Affinity	–	–	Hydrophobic	Hydrophobic	Hydrophobic	Hydrophobic
Flexural Strength, typical	psi kPa	C203	56 370	75 517	105 725	150 1035
Linear Coefficient of Thermal Expansion	in/in°F mm/mm/°C	D696	2.7 x10^{-5} 4.9 x 10^{-5}	2.7 x10^{-5} 4.9 x 10^{-5}	2.7 x10^{-5} 4.9 x 10^{-5}	2.7 x10^{-5} 4.9 x 10^{-5}
Dimensional Stability	% linear change	D2126	1.0%	1.0%	1.0%	1.0%
Maximum Operating Temp.	°F °C	–	165 74	165 74	165 74	165 74
Limiting Oxygen Index	–	D2863	24	24	24	24
Thermal Resistance	@75 °F (24 °C)	C177	4.3(0.75)	4.3(0.75)	4.3(0.75)	4.3(0.75)
	@15 °F (-10 °C)		5.0(0.88)	5.0(0.88)	5.0(0.88)	5.0(0.88)

(1) Thermal resistance for 1 inch (25mm) thickness

AVAILABLE SIZES AND PACKAGING

	Specified Thickness Only	All Thickness*	Available Sheet Dimensions		
	1/2" Increments	1/4" Increments **	2' x 4'	2' x 8'	4' x 8'
	(12.7mm Increments)	(6.25mm Increments)	(610mm to 220mm)	(610mm to 2440mm)	(1220mm to 2440mm)
HS30		1/2" – 48"		X	X
HS40		1/2" – 48"		X	X
HS60	1"– 6"		X		
HS100	1"– 6"		X		

* Maximum thickness 48" ** Custom sizes available - contact Beaver Plastics Ltd.

Caution: Protect from Fire and Heat

Always maintain good housekeeping standards when storing polystyrene products. All Terrafoam high strength products contain self-extinguishing additives, but must be protected from open flame and excessive heat.

Beaver Plastics

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