



FOAMULAR® 400/600/1000 High Density Extruded Polystyrene (XPS) Rigid Foam Board Insulation



PRODUCT FEATURES

Description

Extruded polystyrene (XPS) rigid insulation board for high compressive load applications.

Basic Uses/Related Uses

High strength Extruded Polystyrene (XPS) Insulation products designed for use in building envelope and civil engineering applications requiring additional load-bearing capability such as under slab, concrete floors, flat roofs, foundations, roadways and rail beds, plaza and parking decks and cold storage installations.

Selection Criteria

- High compressive load applications
- 40, 60, 100 psi compressive strengths
- Thermal resistance of R5 per inch¹
- Moisture resistant (hydrophobic), long term durability

Sustainability Criteria

- Recycled content of 20%, pre-consumer (SCS Global Services)
- UL GREENGUARD Gold Certification
- Product specific Type 4 UL Environmental Product Declaration and Transparency Brief
- Silver Material Health Certification (Cradle to Cradle Products Innovation Institute)
- Contributes to credits in green building programs such as LEED® and Green Globes. For further information see documents: LEED® v4 for Building Design and Construction and Owens Corning Impact Study - Leadership in Energy and Environmental Design (LEED® v4).



Applicable Standards

CAN/ULC-S701	Standard for Thermal Insulation, Polystyrene Boards
CAN/ULC-S102.2	Standard Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies
ASTM C177	Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Guarded-Hot-Plate
ASTM C203	Standard Test Method for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
ASTM C518	Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus
ASTM E228	Standard Test Method for Linear Thermal Expansion of Solid Materials with a Push-rod Dilatometer
ASTM D1621	Standard Test Method for Compressive Properties of Rigid Cellular Plastics
ASTM D2126	Standard Test Method for Response of Rigid Cellular Plastics to Thermal and Humid Aging
ASTM D2842	Standard Test Method for Water Absorption of Rigid Cellular Plastics
ASTM E96	Test Methods for Water Vapour Transmission of Materials

Performance Criteria

Compliance:	Type 4	CAN/ULC-S701
Physical Properties:	Compressive Strength ¹ F-400 : 40 psi (275 kPa)	ASTM D1621
	Compressive Strength ¹ F-600 : 60 psi (415 kPa)	ASTM D1621
	Compressive Strength ¹ F-1000 : 100 psi (690 kPa)	ASTM D1621
	Compressive Modulus F-400 : 2000 psi (13789 kPa)	ASTM D1621
	Compressive Modulus F-600 : 2700 psi (18616 kPa)	ASTM D1621
	Compressive Modulus F-1000 : 3700 psi (25510 kPa)	ASTM D1621
	Flexural Strength F-400 : 90 psi (621 kPa)	ASTM C203
	Flexural Strength F-600 : 120 psi (828 kPa)	ASTM C203
	Flexural Strength F-1000 : 150 psi (1034 kPa)	ASTM C203
	Dimensional Stability, Maximum, % linear change: 1.5	ASTM D2126
	Linear Coefficient of Thermal Expansion: 3.5x10 ⁻⁵ in./in./°F (6.3x10 ⁻⁵ mm/mm/°C)	ASTM E228
Thermal:	R5 ft ² hr ² F/BTU per inch (RSI 0.88 m ² C/W per 25 mm)	ASTM C518 or C177
Moisture:	Water Absorption, (max. % by volume) F-400 : 0.60	ASTM D2842
	Water Absorption, (max. % by volume) F-600 : 0.55	ASTM D2842
	Water Absorption, (max. % by volume) F-1000 : 0.50	ASTM D2842
	Water Vapour Permeance: 0.87 Perm (50 ng/Pa.s.m ²)	ASTM E96
	Water Capillarity: None	-
	Water Affinity: Hydrophobic	-
	Limiting Oxygen Index, min.: 24	ASTM D2863
Fire:	Combustible Max. Service Temp. 165 °F (74 °C)	CAN/ULC-S114 -

¹5% deformation or yield, whichever occurs first

¹The LTR performance for Owens Corning FOAMULAR® insulation products per CAN/ULC S701-17 are as follows:
Type 3 products: Minimum LTR of RSI 1.62 at 50 mm thickness & Type 4 products: minimum LTR of RSI 1.66 at 50 mm thickness. Please consult local Owens Corning Technical Representative.





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Delivery and Storage

Deliver products in their original packages, and store in enclosed shelter. Packaging is not UV resistant. Shelter unused packages from the elements.

Limitations

- Exposure to exterior conditions during normal construction cycles is permitted. During that time some fading of color may begin due to UV exposure, and, if exposed for extended periods of time, some degradation or “dusting” of the polystyrene surface may begin. It is best if the product is covered within 60 days to minimize degradation. Once covered, the deterioration stops, and damage is limited to the thin top surface layers of cells. Cells below are generally unharmed.
- This product is combustible. A protective barrier or thermal barrier is required to separate this product from interior living or conditioned spaces as specified in the appropriate building code.
- In soils that may contain hydrocarbons and other petroleum derivatives, and all other products that may cause corrosion and deterioration of the polystyrene boards. Consult soils investigation reports and an Owens Corning Area Sales Manager.
- FOAMULAR® XPS insulation limited lifetime warranty maintains 90% of its thermal resistance for the lifetime of the building and covers all CAN/ULC-S701.
- Prior to use of adhesives, sealants or other similar products with polystyrene boards, verify their compatibility with adhesive manufacturers.

Safety

This product is combustible and may constitute a fire risk if not used or installed properly. Although it contains a fire-suppressing agent, the product will ignite if exposed to a sufficiently intense flame. Do not expose to open flames or any other ignition source during transport, handling, storage or use. For additional information refer to Safe Use Instruction Sheet (SUIS) found in the SDS Database via <http://sds.owenscorning.com>.

Sizes

Thickness	Widths	Lengths	Edges
FOAMULAR® 400 XPS			
25 mm, 38 mm, 51 mm, 76 mm, 102 mm (1", 1.5", 2", 3", 4")	610 mm (24")	2438 mm (96")	Square
FOAMULAR® 600 XPS			
25 mm, 38 mm, 51 mm, 76 mm (1", 1.5", 2", 3")	610 mm (24")	2438 mm (96")	Square
FOAMULAR® 1000 XPS			
38 mm, 51 mm, 76 mm (1.5", 2", 3")	610 mm (24")	2438 mm (96")	Square

FOAMULAR® 400, 600, 1000 High Density is shipped in units containing four individually shrink-wrapped packages.

PRODUCT PLACEMENT

Installation

Ensure surfaces to be covered with insulation boards have been inspected, notably; substrate solidity and level - fill and others; and subsurface mechanical, electrical and telecommunication service lines penetrating or in proximity to insulation boards.

Carefully adjust insulation boards to obtain tight joints between each board; where two layers are required, overlap all joints. Backfill insulation boards or use wood or steel pegs to avoid their displacement due to wind or flotation on water puddles generated by the rain or during subsurface work or near watercourses. Where required, adhere insulation boards together temporarily using an adhesive.

Technical Services Available

For Canadian Technical inquiries please contact local representative. See Technical territory map via www.specowenscorning.ca/contacttech.

Current Ed: 2019.09.01
Previous Ed: 2018.09.01

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SCS Global Services provides independent verification of recycled content in building materials and verifies recycled content claims made by manufacturers. For more information, visit www.SCSglobalservices.com.

LEED® is a registered trademark of the U.S. Green Building Council.



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Pub. No. 501124A. Printed in Canada. September 2019.
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