



INNOVATIONS FOR LIVING®

FOAMULAR® 400/600/1000 High Compressive Strength Rigid Foam Insulation

Product Data Sheet



Typical Physical Properties^{1, 2}

Property	Test Method ²	FOAMULAR® Product and Value		
		400	600	1000
Thermal Resistance , minimum ³ R, °F x ft ² x h/btu (RSI, °C x m ² /W) @ 75°F (24°C) mean temperature @ 40°F (4.4°C) mean temperature	ASTM C 518	5.0 (0.88) 5.4 (0.95)	5.0 (0.88) 5.4 (0.95)	5.0 (0.88) 5.4 (0.95)
Thermal Conductivity , "k" (Btu x in/ft ² x hr x °F), max. @ 75°F mean temperature @ 40°F mean temperature @ 10°F mean temperature	ASTM C 518	0.20 0.18 0.16	0.20 0.18 0.16	0.20 0.18 0.16
Compressive Strength ⁴ , (psi) min.	ASTM D 1621	40	60	100
Compressive Modulus , (psi) min.	ASTM D 1621	1,800	2,550	3,700
Flexural Strength ⁵ , (psi) min.	ASTM C 203	115	140	150
Water Absorption ⁶ (% by volume) max.	ASTM C 272	0.05	0.05	0.05
Water Vapor Permeance ⁷ (perm) max.	ASTM E 96	1.1	1.1	1.1
Water Affinity	—	hydrophobic	hydrophobic	hydrophobic
Water Capillarity	—	none	none	none
Dimensional Stability ⁸ (% linear change) max.	ASTM D 2126	2.0	2.0	2.0
Linear Coefficient of Thermal Expansion (in/in/°F max)	—	2.7 x 10 ⁻⁵	2.7 x 10 ⁻⁵	2.7 x 10 ⁻⁵
Flame Spread ^{9,10}	ASTM E 84	5	5	5
Smoke Developed ^{9,10,11}	ASTM E 84	150-175	150-175	150
Oxygen Index ⁹ , min.	ASTM D 2863	24	24	24
Classification Type	ASTM C 578	VI	VII	V
Service Temperature , maximum, °F (°C)	—	165 (74)		

Description

Owens Corning™ FOAMULAR® 400/600/1000 extruded polystyrene insulation is a high density insulation designed for use in engineered applications requiring additional load-bearing capability. It is comprised of an extruded polystyrene closed-cell foam panel with continuous skin face and back surfaces. Owens Corning's patented Hydrovac® process technology makes the unique closed-cell structure of FOAMULAR® extruded polystyrene insulation highly resistant to moisture, retaining it's excellent R-value year after year— even following prolonged exposure to humidity, condensation, ground water and freeze/thaw cycling.

Uses

Owens Corning™ FOAMULAR® 400/600/1000 extruded polystyrene insulation is ideal for under slab, cold storage installations, concrete floors, foundations, plaza and parking decks, roadways and rail beds, permafrost protection and other high load-bearing applications.

1. Properties shown are representative values for 1" thick material based upon most recent product quality audit data.
2. Modified as required to meet ASTM C578.
3. R means the resistance to heat flow; the higher the value, the greater the insulation power. This insulation must be installed properly to get the marked R-value. Follow the manufacturer's instructions carefully. If a manufacturer's fact sheet is not provided with the material shipment, request this and review it carefully.
4. Value at yield or 10%, whichever occurs first.
5. Value at yield or 5%, whichever occurs first.
6. Data ranges from 0.00 to value shown due to the level of precision of the test method.
7. Actual water vapor permeance data decreases as thickness increases.
8. Data ranges from 0.0 to value shown.
9. These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.
10. Data from Underwriters Laboratories, Inc®. classified. See Classification Certificate U-197.
11. ASTM E84 is thickness-dependent, therefore a range of values is given.

Size Availability

Product	Thickness (in)	Width x Length (in)
FOAMULAR® 400 Insulation	1, 1½, 2, 3, 3½, 4	24 x 96
FOAMULAR® 400 Insulation	1½, 2, 3, 4	48 x 96
FOAMULAR® 600 Insulation	1, 1½, 2, 2½, 3	24 x 96
FOAMULAR® 600 Insulation	2, 3	48 x 96
FOAMULAR® 1000 Insulation	1½, 2	24 x 96

Caution: This product will ignite if exposed to fire of sufficient heat and intensity. This product should be installed in accordance with applicable building codes.

Note: All products described here may not be available in all geographic markets. Consult your local sales representative for more information.



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Product Attributes

Strength

Designed for use in high load bearing applications. High compressive strength resists damage from heavy loads. Available in 40, 60 and 100 psi compressive strengths.

Moisture

Effective resistance against moisture, mildew, corrosion and rot. Excellent water resistance assures stable thermal performance.

R-Value

High R-value of R-5 per inch of product thickness.

Installation

Lightweight, easy to fabricate and install. Compliant with building codes and standards.

Technical Information

All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.

When used as sheathing over wall framing, FOAMULAR® extruded polystyrene insulation is a non-structural material and must be installed on framings which are independently structurally adequate to meet required construction and service loading conditions.

Caution: Combustible. Although it does contain a flame-retardant additive to inhibit ignition from small fire sources, if exposed to fire of sufficient heat and intensity, FOAMULAR® insulation will ignite. Do not expose the product to open flame during shipping, storage, installation or use. In most applications, a code-compliant thermal barrier must be used to separate FOAMULAR® insulation from the building interior.

Standards and Codes Compliance

- Meets ASTM C 578 Type IV; California Quality Standards; HUD UM #71A
- See ICC-ES Evaluation Report No. 1061 at www.icc-es.org
- UL Classified. A copy of UL Classification Certificate U-197 is available at www.foamular.com



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