



INNOVATIONS FOR LIVING™

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

## Product Data Sheet



### Typical Physical Properties<sup>1, 2</sup>

Property	Test Method <sup>2</sup>	FOAMULAR Product and Value		
		400	600	1000
Thermal conductivity - "k" (Btu x in/ft <sup>2</sup> x hr x °F), max. <sup>3</sup>	ASTM C 518			
@ 75°F mean temperature		0.20	0.20	0.20
@ 40°F mean temperature		0.18	0.18	0.18
@ 10°F mean temperature		0.16	0.16	0.16
Compressive Strength, (psi) min. <sup>4</sup>	ASTM D 1621	40	60	100
Compressive Modulus, (psi) min.	ASTM D 1621	1,800	2,550	3,700
Flexural Strength (psi) min. <sup>5</sup>	ASTM C 203	115	140	150
Water Absorption (% by volume) max. <sup>6</sup>	ASTM C 272	0.05	0.05	0.05
Water Vapor Permeance (perm) max. <sup>7</sup>	ASTM E 96	1.1	1.1	1.1
Water Affinity	—	hydrophobic	hydrophobic	hydrophobic
Water Capillarity	—	none	none	none
Dimensional Stability (% linear change) max. <sup>8</sup>	ASTM D 2126	2.0	2.0	2.0
Linear Coefficient of Thermal Expansion (in/in/°F max)	—	2.7 x 10 <sup>-5</sup>	2.7 x 10 <sup>-5</sup>	2.7 x 10 <sup>-5</sup>
Flame Spread <sup>9,10</sup>	ASTM E 84	5	5	5
Smoke Developed <sup>9,10,11</sup>	ASTM E 84	150-175	150-175	175
Oxygen Index, min. <sup>9</sup>	ASTM D 2863	24	24	24
Classification Type	ASTM C 578	VI	VII	V

### 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.

<sup>1</sup>Properties shown are representative values for 1" thick material based upon most recent product quality audit data.  
<sup>2</sup>Modified as required to meet ASTM C578.  
<sup>3</sup>Thermal resistance (R) – (hr x ft.<sup>2</sup> x °F/Btu) – of a 1" thickness at 5.0 (at 75°F mean temperature), 5.4 (at 40°F).  
<sup>4</sup>Value at yield or 10%, whichever occurs first.  
<sup>5</sup>Value at yield or 5%, whichever occurs first.  
<sup>6</sup>Data ranges from 0.00 to value shown due to the level of precision of the test method.  
<sup>7</sup>Actual water vapor permeance data decreases as thickness increases.  
<sup>8</sup>Data ranges from 0.0 to value shown.  
<sup>9</sup>These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.  
<sup>10</sup>Data from Underwriters Laboratories, Inc®, classified. See Classification Certificate U-197.  
<sup>11</sup>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 600 Insulation	1½, 2, 3, 4	48 x 96
FOAMULAR 1000 Insulation	1, 1½, 2, 2½, 3	24 x 96
FOAMULAR 400 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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### Features and Benefits

#### 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

FOAMULAR extruded polystyrene insulation is ideal for all buildings under normal temperature conditions, but should not be used in contact with chimneys, heater vents, steam pipes or other surfaces where intermittent temperatures exceed 165°F. It is not recommended for applications where sustained temperatures exceed 150°F.

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

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. See "conditions for use" section of ICC ES Report 96-24 for application covering recommendations.

### Standards and Codes Compliance

FOAMULAR 400/600/1000 extruded polystyrene insulation is recognized by code authorities under Research Reports ICC-ES Legacy Report 96-24; ICBO 3628; SBCCI PST & ESI 9727a.

It meets or is compliant with HUD/FHA Use of Materials Bulletin No. 71a and ASTM C 578; Underwriters Laboratories, Inc., Classification Certificate U-197; Thermal resistance: 5.0 at 75°F, 5.4 at 40°F mean temperature and 1" thickness (hr x ft<sup>2</sup> x °F/Btu).



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