



INNOVATIONS FOR LIVING®

FOAMULAR® 404, 604, 404 RB & 604 RB Extruded Polystyrene Insulation

Product Data Sheet



Physical Property Data

Property	Test Method	FOAMULAR® 404 Insulation	FOAMULAR® 604 Insulation	FOAMULAR® 404 RB Insulation	FOAMULAR® 604 RB Insulation
R-value¹ @ 75°F mean temperature	C 518	10¹	10¹	9.5	9.5
Compressive strength², (psi), min. value (lb/in²)	D 1621	40	60	40	60
Water Absorption, (% by volume), max.	C 272	0.05	0.05	0.05	0.05
Dimensional Stability, (% linear change), max.	D 2126	2.0	2.0	2.0	2.0
Linear Coefficient of Thermal Expansion, (in./in./°F), max.		2.7x10⁻⁵	2.7x10⁻⁵	2.7x10⁻⁵	2.7x10⁻⁵
Flame Spread	E 84³	5	5	5	5

1. Based on 2" thickness, R-5 per inch of thickness.
2. Ultimate compressive strength. See Maximum Design Load Recommendations, psf in another table
3. These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.

Description

FOAMULAR® 404 and FOAMULAR® 604 extruded polystyrene insulations are specially designed for use in Protected Roof Membrane Assemblies (PRMA), where the insulation is placed directly over the membrane. The compressive strength of FOAMULAR® insulation provides the integrity needed for long-term roof performance. FOAMULAR® insulation is produced by Owens Corning's patented HYDROVAC® process technology under conditions of strict quality control.

Extruded polystyrene is the only type of insulation recommended for PRMA applications. Owens Corning offers four specific types of FOAMULAR® insulation for this use: FOAMULAR® 404 & 604, both featuring drainage channels on all four bottom edges; and FOAMULAR® 404 RB & 604 RB. FOAMULAR® 404 RB and 604 RB have four bottom edge drainage channels, and drainage channels running the length of the panel on the top surface as well.

Product Data

	FOAMULAR® 404 Insulation	FOAMULAR® 604 Insulation
Material	Extruded polystyrene closed-cell foam panel with continuous skin on face and back surface.	
Thermal Resistance*	R=5.0 at 75°F mean temperature and 1" thickness (hr x ft² x °F/Btu). (R-value is the resistance of heat flow through a material. The higher the R-value, the greater the insulating power.)	
Sizes	1½", 2", 2½", 3", 4" thick; 2' wide; 8' long	1½", 2", 3" thick; 2' wide; 8' long
Edges	Rain channeled on all bottom edges.	
Weight	Approximately 200 lb./1,000 ft.² for 1" thickness.	
Packaging	Shipped in units with two stretch-wrap bands per bundle. If long-term storage or exposure to the elements is expected, special packaging can be arranged.	

	FOAMULAR® 404 RB	FOAMULAR® 604 RB
Material	Extruded polystyrene closed-cell foam panel with drainage channels cut into top side.	
Thermal Resistance*	R=9.5 at 75°F mean temperature and 2" thickness (hr x ft.² x °F/Btu). (R-value is the resistance of heat flow through a material. The higher the R-value, the greater the insulating power.)	
Sizes	2", 3" thick; 2' wide; 8' long	1½", 2", 3" thick; 2' wide; 8' long
Edges	Rain channeled on all bottom edges.	
Weight	Approximately 200 lb./1,000 ft.² for 1½" thickness.	
Packaging	Shipped in units with two stretch-wrap bands per bundle. If long-term storage or exposure to the elements is expected, special packaging can be arranged.	

*Assuming a linear relationship to the volume of polystyrene lost during fabrication.

Maximum Design Load Recommendation, PSF

FOAMULAR® Insulation Product	Dead Load	Live Load
404	1,910	1,150
404 RB	1,110	660
604	2,880	1,720
604 RB	1,660	1,000

Uses

With a minimum of 40 psi compressive strength, FOAMULAR® 404 insulation meets the needs of many PRMA applications. For even greater strength, specify the 60 psi compressive strength of FOAMULAR® 604 insulation. Both products feature rain channels on all four bottom edges to promote drainage below the insulation.

FOAMULAR® 404 RB and FOAMULAR® 604 RB insulation products are used when the insulation is to be placed directly beneath concrete or other types of paver blocks, eliminating the need for pedestals resulting in significant labor and material savings. (When used under dark colored, non-white, pavers other than concrete, such as rubber, additional solar heat



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protection should be considered.) In addition to providing strong support for the PRMA roof, these products offer excellent drainage characteristics because they're manufactured with channels that are cut in the surface of the foam the entire length of each panel. Coupled with the standard bottom-side rain channels, the top side channels help drain moisture away from the underside of the paver to protect it from freeze/thaw cycle damage.

Product Attributes

Protection

FOAMULAR® 404 and 604 insulation products protect the roof membrane from physical damage, thermal stress and UV exposure in PRMA systems.

Paver Support

Designed for use directly with pavers, FOAMULAR® 404 RB and 604 RB insulation products provide the support necessary for pavers while maintaining the drainage necessary to prevent moisture accumulation at the foam-paver interface.

Compressive Strength

High compressive strength – choose 40 or 60 psi.

Moisture Resistance

Outstanding moisture resistance gives long-term thermal performance.

R-Value

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

Installation

Tough, lightweight panels handle, hoist and install quickly and easily.

Warranty

20 year, Owens Corning physical property warranty, and 90% retention thermal warranty combines with membrane manufacturers' warranties for assured performance.

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



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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