FOAMULAR® High-R CW Plus Extruded Polystyrene (XPS) Rigid Foam Insulation

Description

Owens Corning® FOAMULAR® High-R CW Plus Extruded Polystyrene (XPS) Insulation is a closed cell, moisture-resistant rigid foam board well suited for masonry cavity walls, insulated concrete sandwich panels, and steel stud brick veneer applications.

Features

- Excellent long-term stable insulating performance of R-5.6[1] per inch
- Exceptional moisture resistance, long-term durability
- Reusable
- Lightweight, durable rigid foam panels are easy to handle and install
- Easy to saw, cut or score

1. R means the resistance to heat flow; the higher the R-value, the greater the insulating power.

Technical Information

- FOAMULAR® XPS insulation is a non-structural material and must be installed on framing which is independently braced and structurally adequate to meet required construction and service loading conditions.
- FOAMULAR® XPS insulation can be exposed to the exterior during normal construction cycles. 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 and still useful insulation.
- 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.
- All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.

Physical Properties[2]

Property	Test Method[3]	Value
Thermal Resistance[4], R-value (180 day) minimum, hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	ASTM C518	
1¾" Thickness		10 (1.76)
2⅛" Thickness		12 (2.11)
2½" Thickness		14 (2.46)
3" Thickness		17 (2.99)
@ 40°F (4.4°C) mean temperature		
1¾" Thickness		10.8 (1.89)
2⅛" Thickness		12.9 (2.27)
2½" Thickness		15.1 (2.65)
3" Thickness		18.3 (3.22)
Long Term Thermal Resistance, LTTR-value[4], minimum hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	CAN/ULC S770-03	
1¾" Thickness		10.3 (1.81)
2⅛" Thickness		12.5 (2.20)
2½" Thickness		13.6 (2.39)
3" Thickness		14.7 (2.59)
Compressive Strength[5], minimum psi (kPa)	ASTM D1621	25 (173)
Flexural Strength[6], minimum psi (kPa)	ASTM C203	50 (345)
Water Absorption[7], maximum % by volume	ASTM C272	0.3
Water Vapor Permeance[8], maximum perm (ng/Pa•s•m²)	ASTM E96	1.5 (86)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread[9, 10]	ASTM E84	10
Smoke Developed[9, 10, 11]	ASTM E84	175
Oxygen Index[8], minimum % by volume	ASTM D2863	24
Service Temperature, maximum °F (°C)	—	165 (74)
Linear Coefficient of Thermal Expansion, in/in/°F (m/m/°C)	ASTM E228	3.5×10^{-5} (6.3×10^{-5})

2. Properties shown are representative values for 1" thick material, unless otherwise specified.
3. Modified as required to meet ASTM C578.
4. 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. R-values vary depending on many factors including the mean temperature at which the test is conducted, and the age of the sample at the time of testing. Because rigid foam plastic insulation products are not all aged in accordance with the same standards, it is useful to publish comparison R-value data. The R-value for FOAMULAR® XPS insulation is provided from testing at two mean temperatures, 40°F and 75°F, and from two aging (conditioning) techniques, 180 day real-time aged (as mandated by ASTM C578) and a method of accelerated aging sometimes called "Long Term Thermal Resistance" (LTTR) per CAN/ULC S770-03. The R-value at 180 day real-time age and 75°F mean temperature is commonly used to compare products and is the value printed on the product.
5. Values at yield or 10% deflection, whichever occurs first.
6. Value at yield or 5%, whichever occurs first.
7. Data ranges from 0.00 to value shown due to the level of precision of the test method.
8. Water vapor permeance decreases as thickness increases.
9. These laboratory tests are not intended to describe the hazards 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.

Product and Packaging Data

Material			Packaging					
Extruded polystyrene closed-cell foam, ASTM C578 Type IV, 25 psi minimum			Shipped in poly-wrapped units with individually wrapped or banded bundles.					
Thickness (in)	Product Dimensions Thickness (in) x Width (in) x Length (in)	Pallet (Unit) Dimensions (typical) Width (ft) x Length (ft) x Height (ft)	Square feet per Pallet	Board feet per Pallet	Bundles per Pallet	Pieces per Bundle	Pieces per Pallet	Edges
1¾	1.75 x 16 x 96	4 x 8 x 8	1,536	2,688	12	12	144	Square Edge
2⅛	2.125 x 16 x 96	4 x 8 x 8	1,280	2,720	12	10	120	
2½	2.5 x 16 x 96	4 x 8 x 8	1,152	2,880	12	9	108	
3	3 x 16 x 96	4 x 8 x 8	1,024	3,072	12	8	96	

Available lengths and edge configurations vary by thickness. See www.owenscorning.com for current offerings. Other sizes may be available upon request. Consult your local Owens Corning representative for availability.

Standards, Codes Compliance

- Meets ASTM C578 Type IV
- UL Classification Certificate U-197[12]
- Code Evaluation Report UL ER8811-01[12]
- ASTM E119 Fire Resistance Rated Wall Assemblies[12]
- Meets California Quality Standards and HUD UM #71a
- Compliance verification by RADCO (AA-650)

12. Visit www.owenscorning.com for more details.

Limited Warranty

FOAMULAR® XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C578 properties. See actual warranty for complete details, limitations and requirements at www.owenscorning.com.

Environmental and Sustainability

Owens Corning is a worldwide leader in building material systems, insulation and composite solutions, delivering a broad range of high-quality products and services. Owens Corning is committed to driving sustainability by delivering solutions, transforming markets and enhancing lives. More information can be found at www.owenscorning.com.

Notes

For additional information, refer to the Safe Use Instruction Sheet (SUIS) found in the SDS Database via http://sds.owenscorning.com.

Certifications and Sustainable Features

- Certified by SCS Global Services to contain a minimum of 20% recycled content pre-consumer
- GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit ul.com/gg
- Environmental Product Declaration (EPD) has been certified by UL Environment
- Utilizing FOAMULAR® XPS insulation can help builders achieve green building certifications including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) certification

AVERAGE 20% RECYCLED CONTENT PRE-CONSUMER

Disclaimer of Liability

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