FOAMULAR® Insulating Sheathing
Extruded Polystyrene (XPS) Rigid Foam Insulation

Product Data Sheet

Energy-Saving, Moisture-Resistant XPS Insulation

Film-Faced Insulating Sheathing for Damage Control

ASTM C578 Type X, 15 psi minimum

Description

Used as sheathing over all exterior walls in wood or metal framing construction, FOAMULAR® Insulating Sheathing (IS) XPS Insulation creates an effective insulating envelope over the entire structure.

FOAMULAR® (IS) XPS Insulation is ideal for either wood or metal framing construction, and suits a variety of exterior finishes. These strong, lightweight, rigid foam panels with a film face provide the durability and damage resistance necessary to meet the rigorous demands of site built construction. It is highly resistant to moisture and retains its long term R-value, year after year—even after prolonged exposure to moisture and freeze/thaw cycling.

Key Features

- Readily combines with blanket-type insulation for greater R-value
- Used in fire-rated exterior wall assemblies for application in office buildings, schools, shopping centers and more
- Tough film facers for added damage-resistance
- Excellent long-term stable insulating performance with an R-value[1] of R-3, R-4 or R-5
- Exceptional moisture resistance, long-term durability
- Limited lifetime warranty[2]—maintains 90% of R-value and covers all ASTM C578 properties
- GREENGUARD Gold Certified
- The only XPS foam with certified recycled content—certified by SCS Global Services to contain a minimum 20% recycled content
- Will not corrode, rot or support mold growth
- Zero ozone depletion potential with 70% less global warming potential than our previous formula
- Reusable and remnants from manufacturing are recycled back into new XPS Foam Insulation
- Lightweight, durable rigid foam panels are easy to handle and install
- Easy to saw, cut or score

Technical Information

This product is combustible. A protective barrier or thermal barrier is required as specified in the appropriate building code. For additional information, consult MSDS or contact Owens Corning World Headquarters at 1-800-GET-PINK®.

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

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® 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.

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Standards, Codes Compliance

- Meets ASTM C578 Type X
- UL Classified. A copy of UL Classification Certificate U-197 is available at www.foamular.com
- See UL ER8811-01 at UL.com
- ASTM E119 Fire Resistance Rated Wall Assemblies. See www.foamular.com for details
- Meets California Quality Standards and HUD UM #71a
- Compliance verification by RADCO (AA-650)

Certifications and Sustainable Features of FOAMULAR® XPS Insulation

- FOAMULAR® XPS Insulation is reusable and remnants from manufacturing are recycled back into new XPS Insulation
- FOAMULAR® XPS Insulation is made with a zero ozone depletion formula
- Certified by SCS Global Services to contain a minimum of 20% recycled content
- Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification Program, and the GREENGUARD Gold Certification.

Typical Physical Properties[1]

FOAMULAR® Insulating Sheathing Insulation

Property	Test Method[2]	Value
Thermal Resistance[3], R-Value (180 day) minimum, hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	ASTM C518	
½" Thickness[4]		3.0 (0.53)
¾" Thickness		4.0 (0.70)
1" Thickness		5.0 (0.88)
@ 40°F (4.4°C) mean temperature		
½" Thickness[4]		3.2 (0.57)
¾" Thickness		4.3 (0.76)
1" Thickness		5.4 (0.95)
Long Term Thermal Resistance, LTTR-Value[3] hr•ft²•°F/Btu (RSI, °C•m²/W) @ 75°F (24°C) mean temperature	CAN/ULC S770-03	
½" Thickness[4]		N/A
¾" Thickness		N/A
1" Thickness		5.0 (0.88)
Flexural Strength[5], minimum psi (kPa)	ASTM C203	
½" Thickness[4]		N/A
¾" Thickness		N/A
1" Thickness		65 (448)
Compressive Strength[6], minimum psi (kPa)	ASTM D1621	15 (103)
Water Absorption[7], maximum % by volume	ASTM C272	0.10
Water Vapor Permeance[8], maximum perm (ng/Pa•s•m²)	ASTM E96	0.2 (11.5)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread[9, 10]	ASTM E84	5
Smoke Developed[9, 10, 11]	ASTM E84	45-175
Oxygen Index[9], 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})

1. Properties shown are representative values for core 1" thick material, unless otherwise specified.
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. 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.
4. The ½" is actually a nominal half-inch of 9/16th needed to achieve 3.0 R-value.
5. Value at yield or 5%, whichever occurs first.
6. Values at yield or 10% deflection, 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.

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Product and Packaging Data
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Material	Packaging
Extruded polystyrene product with a closed-cell foam panel with clear film facers on both sides.	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
½	½ x 48 x 96 (Half unit)	4 x 8 x 4	2,560	1,280	4	20	80	Square
	½ x 48 x 108	4 x 9 x 8	5,760	2,880	8	20	160	
¾	¾ x 48 x 96 (Half unit)	4 x 8 x 4	2,048	1,536	4	16	64	Tongue & Groove
	¾ x 48 x 108	4 x 9 x 8	4,608	3,456	8	16	128	
1	1 x 48 x 96	4 x 8 x 8	1,536	1,536	4	12	48	

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

- Approved under the Home Innovation Research Labs NGBS Green Certification Program
- Utilizing FOAMULAR® XPS Insulation can help builders achieve green building certifications including the Environmental Protection Agency's ENERGY STAR®, the National Association of Home Builders' National Green Building certification, and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) certification
- FOAMULAR® XPS Insulation may qualify for The Buy American provision of the American Recovery and Reinvestment Act (ARRA)

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 http://sustainability.owenscorning.com.

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.

Notes

1. R means the resistance to heat flow; the higher the R-value, the greater the insulating power.
2. See actual warranty for complete details, limitations and requirements.

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

For more information on the Owens Corning family of building products, contact your Owens Corning dealer, call 1-800-GET-PINK®, or access our web site: www.owenscorning.com.

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PRE-CONSUMER

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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.

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.

This Home Innovation Research Labs Green Approved mark is your assurance that a product is eligible for points toward National Green Building Certification. Visit www.GreenApprovedProducts.com for details.

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

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