



FOAMULAR® CC Extruded Polystyrene (XPS) Rigid Foam Insulation

Product Data Sheet



Energy-Saving, Moisture-Resistant XPS Insulation

Insulation for Commercial Complete Wall System

ASTM C578 Type X, 16 psi minimum

Description

Owens Corning™ FOAMULAR® CC extruded polystyrene (XPS) insulation board is a closed cell, moisture-resistant rigid foam board designed for commercial steel stud wall applications. FOAMULAR® CC XPS insulation board has a variety of thicknesses to meet continuous insulation energy code requirements and has shiplap edges on the long edges for enhanced joining and watershed at horizontal joints. It is part of the Owens Corning Commercial Complete Wall System. FOAMULAR® CC insulation board provides continuous insulation in Commercial Complete Wall Systems that are also NFPA 285 Fire Test Compliant.

FOAMULAR® CC insulation board is classified as a Type X product when tested in accordance with ASTM C578, has a minimum compressive

strength of 16 psi and provides a long-term thermal performance of R-5 per inch.

FOAMULAR® CC insulation board features shiplap on the long edges which helps to shed water when horizontal joints are installed in a shingle-style orientation.

Like all FOAMULAR® XPS insulation products, FOAMULAR® CC XPS insulation board is made with Owens Corning's patented Hydrovac® process technology under strict quality control measures, which makes it highly resistant to moisture and permits the product to retain its high R-value year after year even after exposure to moisture and freeze/thaw cycling.

Key Features

- Excellent long-term stable insulating performance with an R-value¹ of R-5 per inch
- Shiplap on long edges for more secure horizontal joints
- Included in many NFPA 285 fire-rated assemblies
- Exceptional moisture resistance, long-term durability
- Limited lifetime warranty²— maintains 90% of R-value and covers all ASTM C578 properties
- The only XPS foam to be GREENGUARD Children & Schools CertifiedSM
- The only XPS foam with certified recycled content—

certified by Scientific Certification Systems (SCS) 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
- Lightweight, durable rigid foam panels are easy to handle and install
- Easy to saw, cut or score
- Not for use in roofing. For roofing applications, use Owens Corning™ FOAMULAR® THERMAPINK® extruded polystyrene insulation

Product Applications

High-performance FOAMULAR® CC XPS insulation board:

- Provides excellent moisture resistance in masonry clad commercial walls
- Provides continuous insulation for steel stud framed commercial buildings
- Retains its insulating performance characteristics even after prolonged exposure to moisture
- Provides an air barrier and weather resistive barrier (when joints are sealed) to enhance the building resistance to air and moisture penetration



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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 I-800-GET-PINK®.

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

FOAMULAR® XPS insulation board 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 board 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.

Typical Physical Properties¹

FOAMULAR® CC Extruded Polystyrene Insulation

Property	Test Method ²	Value
Thermal Resistance³, R-Value (180 day) minimum, hr•ft²•°F/Btu (RSI, °C•m²/W)		
@ 75°F (24°C) mean temperature	ASTM C518	
2" Thickness		10 (1.76)
2½" Thickness		12.5 (2.20)
3" Thickness		15 (2.64)
@ 40°F (4.4°C) mean temperature		
2" Thickness		10.8 (1.90)
2½" Thickness		13.5 (2.38)
3" Thickness		16.2 (2.85)
Long Term Thermal Resistance, LTTR-Value³ minimum °F•ft²•hr/Btu (RSI, °C•m²/W)		
@ 75°F (24°C) mean temperature	CAN/ULC S770-03	
2" Thickness		10.6 (1.87)
2½" Thickness		13.4 (2.36)
3" Thickness		16.2 (2.85)
Compressive Strength⁴, minimum psi (kPa)	ASTM D1621	16 (110)
Flexural Strength⁵, minimum psi (kPa)	ASTM C203	60 (414)
Water Absorption⁶, maximum % by volume	ASTM C272	0.10
Water Vapor Permeance⁷, maximum perm (ng/Pa•s•m²)	ASTM E96	1.5 (86)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread^{8,9}	ASTM E84	5
Smoke Developed^{8,9,10}	ASTM E84	45-175
Oxygen Index⁸, 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 x 10 ⁻⁵ (6.3 x 10 ⁻⁵)

- Properties shown are representative values for 1" thick material, unless otherwise specified.
- Modified as required to meet ASTM C578.
- 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.
- Values at yield or 10% deflection, whichever occurs first.
- Value at yield or 5%, whichever occurs first.
- Data ranges from 0.00 to value shown due to the level of precision of the test method.
- Water vapor permeance decreases as thickness increases.
- These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.
- Data from Underwriters Laboratories Inc.® classified. See Classification Certificate U-197.
- ASTM E84 is thickness-dependent, therefore a range of values is given.

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 ICC-ES Evaluation Report ESR-1061 at www.icc-es.org
- 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)



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Product and Packaging Data

FOAMULAR® CC Extruded Polystyrene Insulation

Material		Packaging							
Extruded polystyrene closed cell foam, ASTM C578 Type X, 16 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	
2	2 x 48 x 96	4 x 8 x 8	1,536	3,072	8	6	48	Shiplap Edge on Long Edges, Square Edge on Short Edges	
2½	2.5 x 48 x 96	4 x 8 x 8	1,152	2,880	4	9	36		
3	3 x 48 x 96	4 x 8 x 8	1,024	3,072	8	4	32		

1. Available sizes vary by region. Other sizes may be available upon request. Consult your local Owens Corning representative for availability.

Certifications and Sustainable Features of FOAMULAR® XPS Insulation

- FOAMULAR® XPS insulation is reusable
- FOAMULAR® XPS insulation is made with a zero ozone depletion formula
- Certified by Scientific Certification Systems to contain a minimum of 20% pre-consumer recycled polystyrene
- Certified to meet indoor air quality standards under the stringent GREENGUARD Indoor Air Quality Certification ProgramSM, and the GREENGUARD Children & Schools Certification ProgramSM
- Approved under the National Association of Home Builders (NAHB) Research Center Green Seal of Approval
- Utilizing FOAMULAR® XPS insulation can help achieve green building certifications including the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED®) certification

- FOAMULAR® CC XPS insulation board 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 www.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.foamular.com or www.owenscorningcommercial.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 sites: www.foamular.com and www.owenscorning.com.



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

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