



FOAMULAR® & FOAMULAR® NGX™ HIGH-R CW PLUS

EXTRUDED POLYSTYRENE (XPS) RIGID FOAM INSULATION

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

FOAMULAR® NGX™ High-R CW Plus contains the additional benefit of being manufactured with a blowing agent formulation that delivers a 90% reduction to Global Warming Potential (100 year), including the complete elimination of HFC 134a.¹

¹ Compared to FOAMULAR® High-R CW Plus blowing agent formulation.

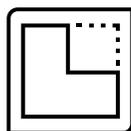
Features



SUPERIOR MOISTURE RESISTANCE



DURABLE



EASY TO CUT, FORM & FIT

Standards, Codes Compliance

- Meets ASTM C578 Type IV
- UL Classification Certificate U-197²
- Code Evaluation Report UL ER8811-01²
- ASTM E119 Fire Resistance Rated Wall Assemblies²
- Meets California Quality Standards and HUD UM #71a
- Compliance verification by RADCO (AA-650)

² Visit www.owenscorning.com for more details.

Technical Information

- Owens Corning® FOAMULAR® & FOAMULAR® NGX™ High-R CW Plus XPS insulation are non structural materials and must be installed on framing which is independently braced and structurally adequate to meet required construction and service loading conditions.
- Owens Corning® FOAMULAR® & FOAMULAR® NGX™ High-R CW Plus 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 Properties³

PROPERTY	TEST METHOD ⁴	VALUE
Thermal Resistance, ⁵ R-value (180 day) minimum, hr·ft ² ·°F/Btu (RSI, °C·m ² /W) @ 75°F (24°C) mean temperature	ASTM C518	
1 ¾" Thickness		10 (1.76)
2 ½" Thickness		12 (2.11)
2 ½" Thickness		14 (2.46)
3" Thickness		17 (2.99)
@ 40°F (4.4°C) mean temperature		
1 ¾" Thickness		10.8 (1.89)
2 ½" Thickness		12.9 (2.27)
2 ½" Thickness		15.1 (2.65)
3" Thickness		18.3 (3.22)
@ 25°F (-3.9°C) mean temperature		
1 ¾" Thickness		11.1 (1.95)
2 ½" Thickness		13.3 (2.34)
2 ½" Thickness		15.5 (2.73)
3" Thickness		18.9 (3.33)
Long-Term Thermal Resistance, LTTR-value, ⁵ minimum hr·ft ² ·°F/Btu (RSI, °C·m ² /W) @ 75°F (24°C) mean temperature	CAN/ULC S770-03	
1 ¾" Thickness		10.3 (1.81)
2 ½" Thickness		12.5 (2.20)
2 ½" Thickness		13.6 (2.39)
3" Thickness		14.7 (2.59)
Compressive Strength, ⁶ minimum psi (kPa)	ASTM D1621	25 (173)
Flexural Strength, ⁷ minimum psi (kPa)	ASTM C203	50 (345)
Water Absorption, ⁸ maximum % by volume	ASTM C272	0.3
Water Vapor Permeance, ⁹ maximum perm (ng/Pa·s·m ²)	ASTM E96	1.5 (86)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0
Flame Spread ^{10,11}	ASTM E84	10
Smoke Developed ^{10,11,12}	ASTM E84	175
Oxygen Index, ⁵ 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)

³ Properties shown are representative values for 1" thick material, unless otherwise specified.

⁴ Modified as required to meet ASTM C578.

⁵ 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.

⁶ Values at yield or 10% deflection, whichever occurs first.

⁷ Value at yield or 5%, whichever occurs first.

⁸ Data ranges from 0.00 to value shown due to the level of precision of the test method.

⁹ Water vapor permeance decreases as thickness increases.

¹⁰ These laboratory tests are not intended to describe the hazards presented by this material under actual fire conditions.

¹¹ Data from Underwriters Laboratories Inc.® classified. See Classification Certificate U-197.

¹² ASTM E84 is thickness-dependent, therefore a range of values is given.

Product and Packaging Data

MATERIAL

Extruded polystyrene closed-cell foam, ASTM C578 Type IV, 25 psi minimum

PACKAGING

Shipped in poly-wrapped units with individually wrapped or banded bundles.

THICKNESS (IN)	PRODUCT DIMENSIONS THICKNESS X WIDTH X LENGTH (IN)	PALLET (UNIT) DIMENSIONS (TYPICAL) WIDTH X LENGTH X HEIGHT (FT)	SQUARE FT PER PALLET	BOARD FT PER PALLET	BUNDLES PER PALLET	PIECES PER BUNDLE	PIECES PER PALLET	EDGES
1¾	1¾ x 16 x 96	4 x 8 x 8	1,536	2,688	12	12	144	Square Edge
2½	2½ x 16 x 96	4 x 8 x 8	1,280	2,720	12	10	120	
2½	2½ 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	

Product availability and lead times vary by region and by product. Consult your local Owens Corning sales representative for availability and lead times.

Limited Warranty

FOAMULAR® & FOAMULAR® NGX™ XPS insulation limited lifetime warranty maintains 90% of its R-value for the lifetime of the building and covers all ASTM C578 properties. See [FOAMULAR® Extruded Polystyrene Insulation Lifetime Limited Warranty](#) for complete details, limitations, and requirements.

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® & FOAMULAR® NGX™ 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



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.

FOAMULAR® is manufactured with a polystyrene resin and blend of HFC blowing agents that have a global warming potential (100 year) of less than 750.

FOAMULAR® NGX™ is manufactured with a polystyrene resin and a blend of HFO and HFC blowing agents that have a global warming potential (100 year) of less than 80.

Disclaimer of Liability

Technical information contained herein is furnished without charge or obligation and is given and accepted at recipient's sole risk. Because conditions of use may vary and are beyond our control, Owens Corning makes no representation about, and is not responsible or liable for the accuracy or reliability of data associated with particular uses of any product described herein.

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.

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

Notes

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

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