



# FOAMULAR® & FOAMULAR® NGX™ 400/600/1000

## HIGH DENSITY EXTRUDED POLYSTYRENE (XPS) RIGID FOAM INSULATION

Owens Corning® FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 High Density Extruded Polystyrene (XPS) Insulation are closed-cell, moisture-resistant rigid foam boards well suited to meet the needs of a wide variety of building applications. Designed for use in building envelope and civil engineering applications requiring additional load-bearing capability such as under slab, concrete floors, flat roofs, foundations, roadways and rail beds, plaza and parking decks and cold storage installations.

FOAMULAR® NGX™ 400/600/1000 contain 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.<sup>1</sup>

1. Compared to FOAMULAR® 400/600/1000 blowing agent formulation.

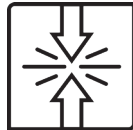
### Product Features



**SUPERIOR  
MOISTURE  
RESISTANCE**



**DURABLE**



**COMPRESSIVE  
STRENGTH**

### Basic Uses/Related Uses

- Under slab/concrete floors
- Flat roofs
- Foundations
- Roadways/Parking Decks
- Cold Storage

### Selection Criteria

- High compressive load applications
- 40, 60, 100 psi compressive strengths
- Thermal resistance of R5 per inch
- Moisture resistant (hydrophobic), long term durability

### Performance Criteria

<b>COMPLIANCE:</b>	Type 4	CAN/ULC-S701
<b>PHYSICAL PROPERTIES:</b>	Compressive Strength <sup>2</sup> <b>F-400:</b> 40 psi (275 kPa)	ASTM D1621
	Compressive Strength <sup>2</sup> <b>F-600:</b> 60 psi (415 kPa)	ASTM D1621
	Compressive Strength <sup>2</sup> <b>F-1000:</b> 100 psi (690 kPa)	ASTM D1621
	Compressive Modulus <b>F-400:</b> 2000 psi (13789 kPa)	ASTM D1621
	Compressive Modulus <b>F-600:</b> 2700 psi (18616 kPa)	ASTM D1621
	Compressive Modulus <b>F-1000:</b> 3700 psi (25510 kPa)	ASTM D1621
	Flexural Strength <sup>3</sup> <b>F-400:</b> 90 psi (621 kPa)	ASTM C203
	Flexural Strength <sup>3</sup> <b>F-600:</b> 120 psi (828 kPa)	ASTM C203
	Flexural Strength <sup>3</sup> <b>F-1000:</b> 150 psi (1034 kPa)	ASTM C203
	Dimensional Stability, Maximum, % linear change: 1.5	ASTM D2126
	Linear Coefficient of Thermal Expansion: <b>3.5x10<sup>-5</sup> in./in./°F (6.3x10<sup>-5</sup> mm/mm/°C)</b>	ASTM E228
<b>THERMAL<sup>4</sup>:</b>	Thermal Resistance, R-Value, hr·ft <sup>2</sup> ·°F/Btu (RSI, °C·m <sup>2</sup> /W) 5.0 (0.88) @ 24°C (75°F) mean temperature 5.4 (0.95) @ 4.4°C (40°F) mean temperature 5.6 (0.99) @ -3.9°C (25°F) mean temperature	ASTM C518 or C177
<b>LTTR<sup>5</sup>:</b>	Long-Term Thermal Resistance, LTTR-Value, minimum R5 hr·ft <sup>2</sup> ·°F/Btu ( <b>RSI 0.88, °C·m<sup>2</sup>/W</b> ) @ 24°C (75°F) mean temperature	CAN/ULC-S770-03
<b>MOISTURE:</b>	Water Absorption, (max. % by volume) <b>F-400:</b> 0.60	ASTM D2842
	Water Absorption, (max. % by volume) <b>F-600:</b> 0.55	ASTM D2842
	Water Absorption, (max. % by volume) <b>F-1000:</b> 0.50	ASTM D2842
	Water Vapour Permeance: <b>&gt; 0.52 Perm (30 ng/Pa.s.m<sup>2</sup>) and &lt; 1.05 Perm (60 ng/Pa.s.m<sup>2</sup>)</b>	ASTM E96
	Water Capillarity: <b>None</b>	-
	Water Affinity: <b>Hydrophobic</b>	-
	Limiting Oxygen Index, min.: <b>24</b>	ASTM D2863
<b>FIRE:</b>	Combustible Max. Service Temp. 74 °C (165 °F)	CAN/ULC-S114 -

2. Values at yield or 5% deflection, whichever occurs first.

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

4. The R-value for FOAMULAR® & FOAMULAR® NGX™ XPS Insulation is provided from testing at mean temperatures of: -4°C (25°F), 4.4°C (40°F), and 24°C (75°F) and aging techniques of 180-day real time aged (as mandated by ASTM C578) and accelerated aging "Long-Term Thermal Resistance" (LTTR) per CAN/ULC S770-03.

5. The LTTR performance for Owens Corning® FOAMULAR® & FOAMULAR® NGX™ insulation products per CAN/ULC S701 are as follows: Type 3 products: Minimum LTTR of RSI 1.62 at 50 mm thickness & Type 4 products: minimum LTTR of RSI 1.66 at 50 mm thickness. Please consult local Owens Corning Technical Representative.

## Technical Information

- Deliver products in their original packages, and store in enclosed shelter. Packaging is not UV resistant. Shelter unused packages from the elements.
- Exposure to exterior conditions during normal construction cycles is permitted. 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.
- Prior to use of adhesives, sealants or other similar products with polystyrene boards, verify their compatibility with adhesive manufacturers.
- In soils that may contain hydrocarbons and other petroleum derivatives, and all other products that may cause corrosion and deterioration of the polystyrene boards. Consult soils investigation reports and an Owens Corning Area Sales Manager.
- This product is combustible and may constitute a fire risk if not used or installed properly. Although it contains a fire-suppressing agent, the product will ignite if exposed to a sufficiently intense flame. Do not expose to open flames or any other ignition source during transport, handling, storage or use. 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.
- Ensure surfaces to be covered with insulation boards have been inspected, notably, substrate solidity and level - fill and others; and subsurface mechanical, electrical and telecommunication service lines penetrating or in proximity to insulation boards.
- Carefully adjust insulation boards to obtain tight joints between each board; where two layers are required, overlap all joints. Backfill insulation boards or use wood or steel pegs to avoid their displacement due to wind or flotation on water puddles generated by the rain or during subsurface work or near watercourses. Where required, adhere insulation boards together temporarily using an adhesive.

## Sizes

THICKNESS	WIDTHS	LENGTHS	EDGES
<b>FOAMULAR® and FOAMULAR® NGX™ 400 XPS</b>			
25 mm, 38 mm, 51 mm, 76 mm, 102 mm (1", 1.5", 2", 3", 4")	610 mm (24")	2438 mm (96")	Square
<b>FOAMULAR® and FOAMULAR® NGX™ 600 XPS</b>			
25 mm, 38 mm, 51 mm, 76 mm (1", 1.5", 2", 3")	610 mm (24")	2438 mm (96")	Square
<b>FOAMULAR® and FOAMULAR® NGX™ 1000 XPS</b>			
38 mm, 51 mm, 76 mm (1.5", 2", 3")	610 mm (24")	2438 mm (96")	Square

FOAMULAR® & FOAMULAR® NGX™ 400/600/1000 High Density is shipped in units containing four individually shrink-wrapped packages.

## 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](http://ul.com/gg)
- Product specific Type 4 UL Environmental Product Declaration (EPD) and Transparency Brief certified by UL Environment
- Contributes to credits in green building programs such as LEED® and Green Globes. For further information see documents: LEED® v4 for Building Design and Construction and Owens Corning Impact Study - Leadership in Energy and Environmental Design (LEED® v4)



## 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.ca](http://www.owenscorning.ca) or [www.owenscorninglibrary.ca](http://www.owenscorninglibrary.ca).

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

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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>.

### 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 CAN/ULC-S701 properties. See FOAMULAR® Extruded Polystyrene Insulation Lifetime Limited Warranty for complete details, limitations, and requirements.

### Technical Services Available

For Canadian Technical inquiries please contact local representative. See Technical territory map via [www.specowenscorning.ca/contacttech](http://www.specowenscorning.ca/contacttech).

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