

FOAMULAR® INSULATION PHYSICAL PROPERTIES⁽¹⁾

PROPERTY	TEST METHOD ²	FOAMULAR® 150 Insulation INSULPINK® Insulating Sheathing	FOAMULAR® 250 Insulation INSUL-DRAIN® Insulation	FOAMULAR® 400 Insulation
Thermal Resistance, R-Value (180 day) ³ , minimum, °F * ft ² * hr/btu (RSI, °C * m ² /W)	ASTM C518	R-5/inch	R-5/inch	R-5/inch
Compressive Strength, minimum psi (kPa) ⁴	ASTM D1621	15	25 (172)	40 (276)
Flexural Strength, minimum psi (kPa) ⁵	ASTM C203	40 (276)	50 (345)	90 (621)
Water Absorption, maximum % by volume ⁶	ASTM C272	0.3	0.3	0.05
Water Vapor Permeance, maximum perm (ng/Pa/s/m ²) ⁷	ASTM E96	1.5 (86)	1.5 (86)	1.1 (63)
Dimensional Stability, maximum % linear change	ASTM D2126	2.0	2.0	2.0
Flame Spread ^{8,9}	ASTM E84	10	10	10
Smoke Developed ^{8,9,10}	ASTM E84	175	175	175
Oxygen Index, minimum % by volume ⁸	ASTM D2863	24	24	24
Service Temperature, maximum °F (°C)	-	165 (74)	165 (74)	165 (74)
Linear Coefficient of Thermal Expansion, in/in/ °F (m/m/°C)	ASTM E228	3.5 x 10 ⁻⁵ (6.3x10 ⁻⁵)	3.5 x 10 ⁻⁵ (6.3x10 ⁻⁵)	3.5 x 10 ⁻⁵ (6.3x10 ⁻⁵)
Type Classifications	ASTM C578	Type X	Type IV	Type VI

- Properties shown are representative values for 1" thick material, unless otherwise specified. Testing modified as needed for products less than 1/2" thickness.
- 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. The R-value for FOAMULAR® XPS is provided from testing at two mean temperatures, 40° F and 75° F, and 180 day real-time aged (as mandated by ASTM C578). 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. Testing modified as needed for products less than 1/2" thickness.
- 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

THERMAL RESISTANCE R-VALUES[†] FOR TYPICAL FRAMED WALL

EXTERIOR FINISH	R-VALUE	INSULATING BLANKET THICKNESS (IN.)	DESIGN THERMAL RESISTANCE (R) VALUE (WINTER CONDITIONS) FOR FOAMULAR® THICKNESS ⁽¹⁾		
			1/2" (R-3)	3/4" (R-4)	1" (R-5)
3/4" Wood Siding	1.05	3 1/2" R13	18.50	19.45	20.76
		3 1/2" R15	20.50	21.45	22.76
		6 1/4" R19	24.50	25.45	26.76
1/2" Plywood Hardboard Siding	.62	3 1/2" R13	18.07	19.02	20.33
		3 1/2" R15	20.07	21.02	22.33
		6 1/4" R19	24.07	25.02	26.33
Vinyl Siding	.71	3 1/2" R13	18.16	19.11	20.42
		3 1/2" R15	20.16	21.11	22.42
		6 1/4" R19	24.16	25.11	26.42
4" Face Brick	.44	3 1/2" R13	18.90	19.85	21.16
		3 1/2" R15	20.90	21.85	23.16
		6 1/4" R19	24.90	25.85	27.16
1" Stucco	.20	3 1/2" R13	17.65	18.60	19.91
		3 1/2" R15	29.65	20.60	21.91
		6 1/4" R19	23.65	24.60	25.91

[†]The higher the R-value, the greater the insulation value. Find out why in the Seller's Fact Sheet on R-values.

* Nominal thickness

FOAMULAR® PINK Foam Insulation is produced using the Owens Corning™ patented HYDROVAC® process technology.

Note: (1) resistances are calculated, including Inside/Outside air films, based upon procedures and design values for all components at 75° F mean temperature from current ASHRE Handbook of Fundamentals.

FOAMULAR® XPS INSULATION RESIDENTIAL PRODUCT SELECTION GUIDE

RESIDENTIAL APPLICATION	PRODUCT	ASTM C578 Type	R-VALUE	THICKNESS (in Inches)	AVAILABILITY	USES
General Purpose	FOAMULAR® 150 15 psi	X	R-5.0 R-7.5 R-10	1" 1-1/2" 2"	Square, Scored Square and Tongue & Groove Edges 24"x96", 48"x96" or 108"	For exterior sheathing insulation projects and interior of basement walls in lieu of InsulPink® insulation.
	FOAMULAR® 250 25 psi	IV	R-5.0 R-7.5 R-10	1" 1-1/2" 2"	Square, Scored Square and Tongue & Groove Edges 24"x96", 48"x96" or 108"	For exterior of foundation walls, underslab for slab foundations or basement foundations and crawlspaces.
WALL						
Sheathing	FOAMULAR® Insulating Sheathing 15 psi	X	R-3.0 R-4.0 R-5.0	1/2"* 3/4" 1"	Square and Tongue & Groove Edges Film Faced Both Sides 48"x96" or 108" *Square only	Exterior above grade walls and underneath vinyl siding or other claddings by reducing thermal bridging from wood studs or continuous insulation.
	FOAMULAR® PROPINK® Insulating Sheathing 15 psi	X	R-3.0 R-4.0 R-5	1/2" 3/4" 1"	Tongue & Groove Reinforced Fill Facing on both sides 48"x96" or 108"	Exterior above grade walls and underneath vinyl siding or other claddings by reducing thermal bridging from wood studs or continuous insulation. Extra strength with its reinforced laminated film.
	FOAMULAR® Half-Inch 15 psi	X	R-3	1/2"	Square and Shiplap Edges 24"x96", 48"x96" or 108"	For above grade sheathing.
RE-SIDING						
	FOAMULAR® Fanfold Foam Residing Board		R-1.0	1/4"	4'x50'; folded every 2 feet	For new or replacement siding. Laminated on one side.
FOUNDATION						
Under Slab	FOAMULAR® 400 40 psi	IV IV	R-5	1"	24"x96"	For under slab, concrete floors. High load applications.
			R-10	2"	24", 48" and 96"	
Exterior Wall Foundation	FOAMULAR® 250 25 psi	IV	R-5.0 R-7.5 R-10	1" 1-1/2" 2"	Square, Scored Square and Tongue & Groove Edges 24"x96", 48"x96" or 108"	For exterior foundation walls; insulates and protects the waterproofing membrane.
	FOAMULAR® INSUL-DRAIN® 25 psi	IV	R-4.4 R-6.9 R-10.6	1" 1-1/2" 2-1/4"	1"x48"x96" 1.5"x48"x96" 2.25"x48"x96"	For exterior foundation walls; provides superior drainage capacity & protection for ground water concerns.
ACCESSORIES						
	HomeSealR® Foam Joint Tape			3" Width	180' length	Provides reliable adhesion to FOAMULAR® XPS that is both durable and flexible.
	FlashSealR® Foam Flashing Tape			4" Width 6" Width 9" Width	90' length	Provides reliable adhesion to FOAMULAR® XPS and seals the rough openings around windows and doors; durable and flexible.
	PINKWRAP® Housewrap				3'x100' / 9'x100' / 9'x150' / 10'x150' / 9'x195'	Reduces air infiltration through residential exterior side wall construction.
	TruWrap® Housewrap				3'x100' / 4.5'x100'; 9'x100' / 10'x100'; 9'x150' / 10'x150'; 9'x195' / 10'x195'	Reduces air infiltration through residential exterior side wall construction; budget-friendly.
	BILD-R-TAPE® Construction Tape			2.375" Width	72 yards length	Secures the seams of Owens Corning housewrap products and general construction repair.
	ProPink ComfortSeal® Sill Gasket			1/4"	Air Infiltration Gasket, 3-1/2", 5-1/2" and 7-1/2" width; 50' length	Helps eliminate drafts around foundations.
	raft-R-mate® Attic Rafter Vent				22-1/2" x 44" Perforated for use between 24" or 16" rafter spacing	Assists in the constant flow of air and increases attic ventilation.