



INNOVATIONS FOR LIVING™

FoamulaR® I50 Rigid Foam Insulation

Product Data Sheet



Description

All-purpose foam panel insulation for masonry and other applications.

Owens Corning FoamulaR I50 extruded polystyrene insulation is ideal for wall furring, perimeter/ foundation, cavity wall, crawl-space, pre-cast concrete, under slab, sheathing and other applications. Owens Corning's patented Hydrovac® process technology makes the unique closed-cell structure of FoamulaR insulation highly resistant to moisture, retaining its long term R-value* year after year – even following prolonged exposure to water leakage, humidity, condensation, groundwater and freeze/thaw cycling.

Performance Benefits

- High R-value (R-5 per inch of product thickness).*
- Compressive strength of 15 psi.
- Effective resistance against moisture, mildew, corrosion and rot.
- Ease of handling and installation (lightweight, tough, rigid foam panels).

*The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-values.

- Easy to saw, cut and score.
- Wide selection of sizes and thicknesses.
- Availability in straight, tongue and groove, or scored square edges.
- Compliance with building codes and standards.
- Provide insulation in a metal or wood furring system used for masonry or concrete walls.
- Perform below grade in perimeter and foundation applications to complement the insulating sheathing envelope around the building framing.

Resistant to common soils and decay, Owens Corning FoamulaR retains its insulating performance characteristics even after prolonged exposure to moisture.

Product Applications

High-performance FoamulaR I50 works to:

- Retard the transmission of water vapor and moisture in masonry walls, helping prevent structural damage.

Typical Physical Properties¹

Property	Test Method ²	Value
Thermal conductivity - "k" ³ (Btu x in/hr x ft ² x °F) @ 75°F mean temperature @ 40°F mean temperature	ASTM C 518	0.20 0.18
Thermal Resistance - "R", minimum (°F x ft ² x h/btu) @ 75°F mean temperature @ 40°F mean temperature (K x m ² /W) @ 75°F mean temperature @ 40°F mean temperature	ASTM C 518	
Compressive Strength, minimum (lb/in ²) ⁴	ASTM D 1621	15.0
Flexural Strength (lb/in ² min) ⁵	ASTM C 203	60
Water Absorption (% by volume max) ⁶	ASTM C 272	0.10
Water Vapor Permeance (perm max) ⁷	ASTM E 96	1.1
Water Affinity	—	hydrophobic
Water Capillarity	—	none
Dimensional Stability (% linear change max) ⁸	ASTM D 2126	2.0
Linear Coefficient of thermal expansion (in/in/°F max)	—	2.7 x 10 ⁻⁵
Flame Spread ^{9,10}	ASTM E 84	5
Smoke Developed ^{9,10,11}	ASTM E 84	45-175
Oxygen index min ⁹	ASTM D 2863	24

¹Properties shown are representative values for 1" thick material based upon most recent product quality audit data.

²Modified as required to meet ASTM C578.

³Thermal resistance (R) – (hr. x ft.² x °F/Btu) – of a 1" thickness at 5.0 (at 75°F mean temperature), 5.4 (at 40°F).

⁴Value at yield or 10% deflection, whichever occurs first.

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

⁶Data ranges from 0.00 to value shown due to the level of precision of the test method.

⁷Actual water vapor permeance data decreases as thickness increases.

⁸Data ranges from 0.0 to value shown.

⁹These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.

¹⁰Data from Underwriters Laboratories, Inc®. classified. See Classification Certificate U-197.

¹¹ASTM E84 is thickness-dependent, therefore a range of values is given.



INNOVATIONS FOR LIVING™

FOAMULAR® 150 Rigid Foam Insulation

Product Data Sheet

Standards and Codes Compliance

- Recognized by code authorities under Research Reports BOCA 96-24; ICBO 3628; SBCCI PST & ESI 9727A
- Meets HUD/FHA Use of Materials Bulletin No. 71A and ASTM C 578 Type X
- Underwriters Laboratories, Inc.®, Classification Certificate U-197
- Thermal resistance: 5.0 at 75°F, 5.4 at 40°F mean temperature per 1" thickness (hr x ft² x °F/Btu)

Technical Information

- Foamular insulation is ideal for all buildings under normal temperature conditions, but should not be used in contact with chimneys, heater vents, steam pipes or other surfaces where temperatures exceed 150°F. It is not recommended for applications where sustained temperatures exceed 165°F.
- All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals.
- Foamular insulation is a non-structural material and must be installed on framings which are independently structurally adequate to meet required construction and service loading conditions.

Caution

This product will ignite if exposed to fire of sufficient heat and intensity. During shipping, storage,

installation and use, this product should not be exposed to open flame or other ignition sources. See the conditions of use section of the code evaluation reports for specific applications.

Note

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

Product Data

Foamular Insulation Product - 150 (15 psi)¹

Material

Extruded polystyrene closed-cell foam panel with continuous skins on face and back surfaces

Weight

Approximately 120-130 lb/1,000 ft² for 1" thickness

Packaging

Shipped in units with two stretchwrap bands per bundle, with an additional exterior wrap.

Thickness ² (in)	Width x Length ³ (in)	Edges
1, 1½, 2, 2½, 3	16 x 96	Square
1, 1½, 2, 2½, 3, 3½	24 x 96	Square
1, 1½, 2, 2½, 3	48 x 96	Square
1	48 x 108	Square
1, 1½, 2, 2½, 3	48 x 96	Scored Square
1, 1½, 2	24 x 96	T&G ⁴
1, 1½, 2	48 x 96	T&G ⁴
1	48 x 96	T&G ⁴

¹Compressive strength, minimum (specification) value (lb/in²)

²"R" per inch: 5.0 (at 75°F mean temperature)

³Other sizes available on request. Consult your local Owens Corning representative for availability.

⁴Tongue-and-groove edge reduces air infiltration

Foamular insulation is produced by Owens Corning's patented Hydrovac® process technology. For more information on the Owens Corning family of home building products, contact your Owens Corning dealer, call 1-800-GET-PINK or access our web site: www.owenscorning.com



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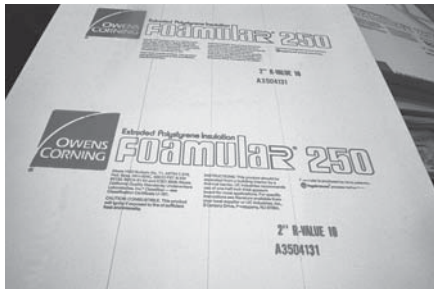




INNOVATIONS FOR LIVING™

FoamulaR® 250 Rigid Foam Insulation

Product Data Sheet



Owens Corning FoamulaR 250 extruded polystyrene insulation is ideal for wall furring, perimeter/ foundation, cavity wall, crawl-space, pre-cast concrete, under slab, roofing systems, sheathing and other applications. Owens Corning's patented Hydrovac® process technology make the unique closed-cell structure of FoamulaR insulation highly resistant to moisture, retaining its long term R-value* year after year – even following prolonged exposure to water leakage, condensation, groundwater and freeze/thaw cycling.

Performance Benefits

- High R-value (R-5 per inch of product thickness).*
- Compressive strength of 25 psi.
- Effective resistance against moisture, mildew, corrosion and rot.
- Ease of handling and installation (lightweight, tough, rigid foam panels).
- Easy to saw, cut and score
- Wide selection of sizes and thicknesses.

- Availability in straight, tongue and groove, or scored square edges.
- Compliance with building codes and standards.

Product Applications

Superior Insulation Performance for a Wide Variety of Building Requirements

High-performance FoamulaR 250 works to:

- Retard the transmission of water vapor and moisture in masonry walls, helping prevent structural damage.
- Provides insulation in a metal or wood furring system used for masonry or concrete walls.
- Perform below grade in perimeter and foundation applications, or directly beneath the concrete slab to complement the insulating sheathing envelope around the building framing.

Resistant to common soils and decay, Owens Corning FoamulaR retains its insulating performance characteristics even after prolonged exposure to moisture.

Typical Physical Properties¹

Property	Test Method ²	Value
Thermal conductivity - "k" ³ (Btu x in/hr x ft ² x °F) @ 75°F mean temperature @ 40°F mean temperature	ASTM C 518	
		0.20
		0.18
Thermal Resistance - "R", minimum (°F x ft ² x h/btu) @ 75°F mean temperature @ 40°F mean temperature	ASTM C 518	
		5.0
		5.4
Compressive Strength, minimum (lb/in ²) ⁴	ASTM D 1621	25.0
Flexural Strength (lb/in ² min) ⁵	ASTM C 203	75
Water Absorption (% by volume max) ⁶	ASTM C 272	0.10
Water Vapor Permeance (perm max) ⁷	ASTM E 96	1.1
Water Affinity	—	hydrophobic
Water Capillarity	—	none
Dimensional Stability (% linear change max) ⁸	ASTM D 2126	2.0
Linear Coefficient of thermal expansion (in/in/°F max)	—	2.7 x 10 ⁻⁵
Flame Spread ^{9,10}	ASTM E 84	5
Smoke Developed ^{9,10,11}	ASTM E 84	45-175
Oxygen Index min ⁹	ASTM D 2863	24
Service Temperature max (°F)		165
ASTM C 578 (type)		IV

¹Properties shown are representative values for 1" thick material based upon most recent product quality audit data.

²Modified as required to meet ASTM C578.

³Thermal resistance (R) – (hr. x ft.² x °F/Btu) – of a 1" thickness at 5.0 (at 75°F mean temperature), 5.4 (at 40°F).

⁴Value at yield or 10% deflection, whichever occurs first.

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

⁶Data ranges from 0.00 to value shown due to the level of precision of the test method.

⁷Actual water vapor permeance data decreases as thickness increases.

⁸Data ranges from 0.0 to value shown.

⁹These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.

¹⁰Data from Underwriters Laboratories, Inc®. classified. See Classification Certificate U-197.

¹¹ASTM E84 is thickness-dependent, therefore a range of values is given.

*The higher the R-value, the greater the insulating power. Ask your seller for the fact sheet on R-values.



INNOVATIONS FOR LIVING™

FoamulaR® 250 Rigid Foam Insulation

Product Data Sheet

Technical Information

- FoamulaR insulation is ideal for all buildings under normal temperature conditions, but should not be used in contact with chimneys, heater vents, steam pipes or other surfaces where temperatures exceed 165°F. It is not recommended for applications where sustained temperatures exceed 150°F.
- All construction should be evaluated for the necessity to provide vapor retarders. See current ASHRAE Handbook of Fundamentals
- FoamulaR insulation is a non-structural material and must be installed on framings which are independently structurally adequate to meet required construction and service loading conditions.

Standards and Codes Compliance

- Recognized by code authorities under Research Reports BOCA 96-24; ICBO 3628; SBCCI PST & ESI 9727A
- Meets HUD/FHA Use of Materials Bulletin No. 71a and ASTM C 578 Type IV
- Underwriters Laboratories, Inc.®, Classification Certificate U-197
- Thermal resistance (R-value): 5.0 at 75°F, 5.4 at 40°F mean temperature per 1" thickness (hr x ft² x °F/Btu)

Caution

This product will ignite if exposed to fire of sufficient heat and intensity. See the conditions of use section of the code evaluation reports for specific applications. During shipping, storage, installation and use, this product should not be exposed to open flame or other ignition sources.

Note

All products described here may not be available in all geographic markets. Consult your local sales office representative for more information. FoamulaR insulation is produced by Owens Corning's patented HYDROVAC® process technology.

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

Product Data

Foamular Insulation Product - 250 (25 psi)¹

Material

Extruded polystyrene closed-cell foam panel with continuous skins on face and back surfaces

Weight

150 lb/1,000 ft² for 1" thickness

Packaging

Shipped in units with two stretchwrap bands per bundle, with an additional exterior wrap.

Thickness ² (in)	Width x Length ³ (in)	Edges
1, 1½, 2, 2½, 3	16 x 96	Square
¾, 1, 1½, 2, 2½, 3, 3½, 4	24 x 96	Square
¾, 1, 1½, 2, 2½, 3	48 x 96	Square
¾, 1	48 x 108	Square
¾, 1, 1½, 2, 2½, 3	48 x 96	Scored Square
¾, 1, 1½, 2	24 x 96	T&G ⁴
¾, 1, 1½, 2	48 x 96	T&G ⁴
¾, 1	48 x 96	T&G ⁴

¹Compressive strength, minimum (specification) value (lb/in²)

²"R" per inch: 5.0 (at 75°F mean temperature)

³Other sizes available on request. Consult your local Owens Corning representative for availability.

⁴Tongue-and-groove edge reduces air infiltration



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Submittal Sheet



FOAMULAR® 400/600/1000

High Compressive Strength
Rigid Foam Insulation



Physical Property Data^(1,2)

Property	Test Method	Product/Values		
		FOAMULAR 400	FOAMULAR 600	FOAMULAR 1000
Thermal conductivity units – “k” (Btu x in./ft ² x hr. x °F), max. ⁽³⁾	C 518			
@ 75°F mean temperature		0.20	0.20	0.20
@ 40°F mean temperature		0.18	0.18	0.18
@ 10°F mean temperature		0.16	0.16	0.16
Compressive strength, (psi), min. ⁽⁴⁾	D 1621	40	60	100
Compressive modulus, (psi), min.	D 1621	1800	2550	3700
Flexural strength, (psi), min. ⁽⁵⁾	C 203	75	105	150
Water absorption, (% by volume), max. ⁽⁶⁾	C 272	0.05	0.05	0.05
Water vapor permeance, (perm), max. ⁽⁷⁾	E 96	1.1	1.1	1.1
Water affinity		hydrophobic	hydrophobic	hydrophobic
Water capillarity		none	none	none
Dimensional stability, (% linear change), max. ⁽⁸⁾	D 2126	2.0	2.0	2.0
Linear coefficient of thermal expansion, (in./in./°F), max.		2.7x10 ⁻⁵	2.7x10 ⁻⁵	2.7x10 ⁻⁵
Maximum service temperature, (°F)		165°F	165°F	165°F
Flame spread ^(9,10)	E 84	5	5	5
Smoke developed ^(9,10,11)	E 84	150-175	150-175	175
Oxygen index, min. ⁽⁹⁾	D 2863	24	24	24
Classification Type	C 578	VI	VII	V

Description

Owens Corning FOAMULAR 400/600/1000 is a high density insulation designed for use in engineered applications requiring additional load-bearing capability. It is comprised of an extruded polystyrene closed-cell foam panel with continuous skin face and back surfaces. Owens Corning’s patented Hydrovac® process technology makes the unique closed-cell structure of FOAMULAR insulation highly resistant to moisture, retaining it’s excellent R-value year after year – even following prolonged exposure to humidity, condensation, ground water and freeze/thaw cycling.

Uses

Owens Corning FOAMULAR 400/600/1000 extruded polystyrene insulation is ideal for under slab, cold storage installations, concrete floors, foundations, plaza and parking decks, roadways and rail beds, permafrost protection and other high load-bearing applications.

- (1) Properties shown are representative values for 1" thick material based upon most recent product quality audit data.
- (2) Modified as required to meet ASTM C 578.
- (3) Thermal resistance (R) – (hr. x ft. x °F/Btu) – of a 1" thickness 5.0 (at 75°F mean temperature), 5.4 (at 40°F).
- (4) Value at yield or 10%, whichever occurs first.
- (5) Value at yield or 5%, whichever occurs first.
- (6) Data ranges from 0.00 to value shown, due to the level of precision of the test method.
- (7) Actual water vapor permeance data decreases as thickness increases.
- (8) Data ranges from 0.0 to value shown.
- (9) These laboratory tests are not intended to describe the hazard presented by this material under actual fire conditions.
- (10) Data from Underwriters Laboratories, Inc.® Classified. See Classification Certificate U-197.
- (11) ASTM E 84 is thickness dependent, therefore a range of values is given.

Caution: This product will ignite if exposed to fire of sufficient heat and intensity. This product should be installed in accordance with applicable building codes.

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

FOAMULAR® 400/600/1000

Features and Benefits

Strength

Designed for use in high load bearing applications. High compressive strength resists damage from heavy loads. Available in 40, 60 and 100 psi compressive strengths.

Moisture

Effective resistance against moisture, mildew, corrosion and rot. Excellent water resistance assures stable thermal performance.

R-Value

High R-value of R-5 per inch of product thickness.

Installation

Lightweight, easy to fabricate and install. Compliant with building codes and standards.

Technical Information

FOAMULAR insulation is ideal for all buildings under normal temperature conditions, but should not be used in contact with chimneys, heater vents, steam pipes or other surfaces where intermittent temperatures exceed 165°F. It is not recommended for applications where sustained temperatures exceed 150°F.

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

FOAMULAR insulation is a non-structural material and must be installed on framings which are independently structurally adequate to meet required construction and service loading conditions.

Standards & Codes Compliance

FOAMULAR 400/600/1000 is recognized by code authorities under Research Reports ICC-ES Legacy Report 96-24; ICBO 3628; SBCCI PST & ESI 9727a. It meets or is compliant with HUD/FHA Use of Materials Bulletin No. 71a and ASTM C 578; Underwriters Laboratories, Inc., Classification Certificate U-197; Thermal resistance: 5.0 at 75°F, 5.4 at 40°F mean temperature and 1" thickness (hr x ft² x °F/Btu).

Size Availability

Product	Thickness	Width x Length
FOAMULAR 400	1", 1 1/2", 2", 3", 3 1/2", 4"	24" X 96"
FOAMULAR 400	1 1/2", 2", 3", 4"	48" X 96"
FOAMULAR 600	1", 1 1/2", 2", 2 1/2", 3"	24" X 96"
FOAMULAR 1000	1 1/2", 2"	24" X 96"



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