

Flat NH Polyiso with GRF Facers which Maintains Low Temperature R-Value per ASTM C518



Description:

EnergyGuard™ NH Polyiso Insulation is made of glass fiber-reinforced cellulosic felt facers (GRF) bonded to a core of non-halogenated polyisocyanurate foam.

Features and Benefits:

- EnergyGuard™ NH Polyiso Insulation is better for the environment because it does not contain potentially hazardous flame-retardant chemicals
- Maintains the same R-value when tested according to ASTM C1289 standard using the C518 test method at both a mean temperature of 40° F (4.4° C) and 75° F (24° C)
- Achieves ANSI/UL 790 (and ASTM E108) Class A fire resistance ratings without the use of halogenated flame retardants. Refer to UL Product iQ (and other agency listings) for specific assemblies
- High insulation value — polyiso insulation has the highest R-value per inch compared to any other type of non-polyiso insulation of equivalent thickness
- Because of its light weight, this material is easy to handle on the job site and installs quickly. Easy cutting in the field provides the installer with simplified fabricating on the roof deck

- Excellent dimensional stability, high moisture resistance and low water permeability
- Versatile — Approved component in single ply, BUR and modified bitumen systems, with a variety of attachment methods: mechanically attached, fully adhered, loose laid and ballasted

Panel Characteristics:

- Available in a variety of thicknesses from 1.0" (25.4mm) to 4.6" (116mm) to best suit your specifications
- Available in 4' x 4' (1.22m x 1.22m) and 4' x 8' (1.22m x 2.44m) boards
- Other EnergyGuard™ NH products available - Tapered, HD Cover Boards. See individual data sheets for more information

Sustainability:

- EnergyGuard™ NH Polyiso Insulation Board holds the polyiso industry's only specific Environmental Product Declaration (EPD) for non-halogenated products
- Can contribute towards sustainable certifications under a green building rating system such as LEED v4, or Living Building Challenge
- Manufactured with EPA-compliant blowing agents containing no CFCs or HCFCs; has zero ozone depletion potential (ODP) and negligible global warming potential (GWP)
- Green Circle Certified for recycled content
- Potential LEED Credits for polyiso use
- Living Building Challenge Red List Approved
- GREENGUARD Gold
- Where sold compliant with State HFC regulations. More information available at www.polyiso.org

For more information go to gaf.com/green

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Codes & Compliance:

- Meets the requirements of ASTM C1289, Type II, Class 1, Grade 2 (20 psi), and available in Grade 3 (25 psi)
- FM Approved—consult RoofNav.com for specific assemblies
- Classified by UL in accordance with ANSI/UL 1256, UL 790, and UL 263. Refer to UL Product iQ for specific assemblies
- UL Evaluation Report ER1306-03
- Miami-Dade County Product Control Approved
- State of Florida Approved
- For additional information, contact GAF at 877-423-7663 or designservices@gaf.com



EnergyGuard™ NH Polyiso Thermal Values:

Size ¹	R-Value ²	Max Flute Span (in)
1.0" (25.4 mm)	5.7	2 5/8" (66.7 mm)
1.5" (38.1 mm)	8.6	4 3/8" (111 mm)
2.0" (51 mm)	11.4	4 3/8" (111 mm)
2.2" (59 mm)	12.6	4 3/8" (111 mm)
2.3" (58 mm)	13.2	4 3/8" (111 mm)
2.5" (64 mm)	14.4	4 3/8" (111 mm)
3.0" (76 mm)	17.4	4 3/8" (111 mm)
3.5" (89 mm)	20.5	4 3/8" (111 mm)
3.7" (94 mm)	21.7	4 3/8" (111 mm)
4.0" (102 mm)	23.6	4 3/8" (111 mm)
4.3" (109 mm)	25.4	4 3/8" (111 mm)
4.5" (114 mm)	26.6	4 3/8" (111 mm)
4.6" (116 mm)	27.1	4 3/8" (111 mm)

¹ Other thicknesses available upon request.

² Long Term Thermal Resistance Values provide a 15-year time weighted average in accordance with CAN/ULC S770.

For optimal roof performance and to prevent thermal bridging GAF recommends installing two layers of Polyiso with staggered joints.

Typical Physical Property Data:

Property	Test Method	Values
Compressive Strength	ASTM D1621	Grade 2 – 20 psi min (138 kPa) Grade 3 – 25 psi min (172 kPa)
Dimensional Stability Change (length + width) ⁴	ASTM D2126	< 2% linear change
Flexural Strength	ASTM C203	40 psi min (275 kPa)
Tensile Strength	ASTM C209	500 psf min (24 kPa)
Water Absorption (percent by volume)	ASTM C209	1.5% max
Water Vapor Permeance	ASTM E96 Procedure A	< 1.5 perm max (85.8ng/Pa•s•m ²)
Service Temperature		-100° to 250 °F (-73.3° to 121.1 °C)
Flame Spread Index ⁵	ASTM E84	< 75 ³
Smoke Developed Index	ASTM E84	< 200 ³

³ Foam Core

⁴ Stated dimensional stability tolerance: Board thickness shall not diminish by more than 4% max.

⁵ These numerical ratings are not intended to reflect hazards presented by these or any other material under actual fire conditions.

Warnings and Limitations

- EnergyGuard™ NH Polyiso Insulation is a non-structural, non load-bearing material. It is not designed for direct traffic usage unless adequately protected.
- EnergyGuard™ NH Polyiso Insulation should be stored protected from the elements. Bundle wrap is not for use as waterproofing for boards. No more insulation should be installed than can be completely covered with roofing on the same day.
- As unprotected polyisocyanurate will burn, fire safety precautions should be observed wherever insulation products are used.
- Direct torching of modified bitumen roofing to EnergyGuard™ NH Polyiso Insulation will present a fire hazard. A properly installed fiberglass base sheet MUST be used over the insulation.
- Refer to PIMA Technical Bulletin No. 109 Storage and Handling Recommendations for Polyiso Roof Insulation at www.polyiso.org
- Refer to the application specifications in the current membrane manufacturer's application and specifications manual for proper installation procedures.



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