EnergyGuard™

Polyiso Insulation

The GAF line of EnergyGuard™ Polyiso Insulation and EnergyGuard™ NH (Non-Halogenated) Polyiso Insulation products provides high-performing, cost-effective solutions that can help you meet energy code requirements and building specification needs while helping to protect your investment.

We protect what matters most™

About **Polyiso Insulation**

Polyisocyanurate foam — polyiso — is the most common type of roof insulation in use today, with over 70% market share for new and retrofit roofing applications.

Lightweight, easy to cut, and easy to maneuver, polyiso also provides a higher R-value per inch compared to non-polyiso types of insulation of equivalent thickness, making it one of the best thermal solutions for low-slope roof systems.

Polyiso is compatible with most roofing systems including single-ply, BUR, and modified bitumen, with a variety of attachment methods including mechanically attached, fully adhered, loose laid, and ballasted.

Now every GAF polyiso product includes a **Non-Halogenated option** at our standard polyiso pricing

GAF Non-Halogenated Polyiso offers excellent thermal value and is free of TCPP — a potentially hazardous flame-retardant chemical. It 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). It also contributes towards and holds sustainability certifications, including LEED, DECLARE, Living Building Challenge, GREENGUARD and GreenCircle; and has an EPD. Now every GAF polyiso product includes a Non-Halogenated option. Available with a variety of facers and sizes, including both flat and tapered, as well as cover boards.

Refer to individual product data sheets on gaf.com for code compliance of specific products referenced.

GRF vs CGF

Polyiso insulation is comprised of a closed-cell, rigid foam board bonded to facers on both sides.

A Glass Fiber Reinforced Cellulosic Facer (GRF) offers compatibility with a variety of systems.

A Durable Coated Glass Fiber Facer (CGF) is composed of coated polymer-bonded fibrous glass mats, offering better adhesive coverage than paper-facer polyiso, greater moisture resistance, and reduced potential for mold growth.

Choose the right EnergyGuard™ product for your project

		EnergyGuard™												
		Insulation						Cover Boards						
		Polyiso	NH Polyiso	Ultra	NH Ultra	Barrier	NH Barrier	HD Barrier	NH HD Barrier	HD	HD Plus	NH HD	NH HD Plus	HD-MA
Product Features	Glass Fiber Reinforced Cellulosic Facer (GRF)	●	●											●
	Coated Glass Fiber Facer (CGF)			●	●	●	●	●	●	●	●	●	●	
	Available in tapered boards 4′ x 4′ [1.21 m x 1.21 m]	●	●	●	●									
Roof Challenges	Suitable for high-traffic roof							●	●	●	●	●	●	●
	Suitable for high-humidity structure			●	●	●	●	●	●	●	●	●	●	
	Resistance to mold (ASTM D3273)†			●	●	●	●	●	●	●	●	●	●	
	Achieves **ANSI/UL 790 Class A** roofing fire-resistance rating as a component of UL Classified roofing assemblies over combustible decks with a minimum .5" (12.7 mm) board thickness**					●	●	●	●					
	Approved component of **FM Class 1-SH (Hail) Rated Assembly**§	●	●	●	●			●	●	●	●	●	●	●
Codes and Compliances	**ASTM C 1289 Type II, Class 1, Grade 2** (20 psi)* and **Grade 3** (25 psi)	●	●											
	ASTM C 1289 Type II, Class 2, Grade 2 (20 psi)* and **Grade 3** (25 psi)			●	●	●	●							
	ASTM C 1289 Type II, Class 4, Grade 1							●	●	●		●		
	ASTM C 1289 Type II, Class 4, Grade 2										●		●	
	FM Approved§	●	●	●	●			●	●	●	●	●	●	●
	Classified by UL in accordance with ANSI/UL 790**	●	●	●	●	●	●	●	●	●	●	●	●	●
	Miami-Dade County Product Control Approved	●	●	●	●	●		●		●	●	●	●	
	State of Florida Approved	●	●	●	●	●		●		●	●	●	●	
Sustainability	Declare.		●		●		●					●	●	
	EPD‡	●	●	●	●	●	●	●	●	●	●	●	●	
		●	●	●	●	●	●	●		●	●	●	●	
		●	●											●

* Stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max.
† GAF warranties and guarantees do not provide coverage for mold or other biological growth. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions.
‡ All EnergyGuard™ Polyiso Insulation has an Environmental Product Declaration (EPD). Some products hold a product specific EPD, while others are covered under the industry-wide EPD. Please reference the product TDS for more information.
§ Refer to RoofNav.com for specific assemblies.
** Refer to UL Product iQ for specific assemblies

For a current list of relevant codes and compliance by product, please see specific data sheets.

EnergyGuard™ and EnergyGuard™ NH Polyiso Insulation

EnergyGuard™ Polyiso Insulation board is made of durable glass fiber-reinforced cellulosic felt facers (GRF) bonded to a core of polyisocyanurate foam. All EnergyGuard™ Polyiso Insulation panels with the GRF facer are GreenCircle Certified for recycled content.† Available in flute fill, straight, and bevel cut.

ASTM C1289 Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) and 4' x 8' (1.2 m x 2.4 m)
Thicknesses:	1" (25.4 mm) – 4.6" (116 mm)

EnergyGuard™ Ultra and EnergyGuard™ NH Ultra Polyiso Insulation

EnergyGuard™ Ultra Polyiso Insulation board is made of coated glass fiber-reinforced cellulosic facers (CGF) bonded to a core of polyisocyanurate foam. CGF facers offer improved moisture properties, a more durable surface, and meet the requirements of ASTM D3273 resistance to mold growth.* Available in flute fill, straight, and bevel cut.

ASTM C1289 Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) and 4' x 8' (1.2 m x 2.4 m)
Thicknesses:	0.5" (12.7 mm) – 4.6" (116 mm)

EnergyGuard™ Barrier and EnergyGuard™ NH Barrier Polyiso Insulation

Flat polyiso insulation with a CGF facer for direct application to combustible decks. Achieves an ANSI/UL 790 Class A Roofing Fire-Resistance Rating over combustible decks with a 1/2" (12.7 mm) board thickness. Meets the requirements of ASTM D3273 for resistance to mold growth.*

ASTM C 1289 Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) and 4' x 8' (1.2 m x 2.4 m)
Thicknesses:	0.5" (12.7 mm) – 4.6" (116 .8 mm)

Ultra HD Composite Insulation

Ultra HD Composite Insulation is a non-structural composite roofing panel consisting of a top layer of EnergyGuard™ HD cover board (80 psi) adhered with a high-tack adhesive to a second layer of EnergyGuard™ Ultra Polyiso Insulation (20 psi). All panels are faced with coated glass for increased durability and resistance to mold growth per ASTM D3273*. Combines the maximum durability and R-value of HD cover board with the versatility and thermal efficiency of Ultra Polyiso Insulation. FM Approved for fully adhered and mechanically attached systems.

Panels	Measurements
Sizes:	47 ½" x 47 ½" (1207 mm x 1207 mm) and 47 ½" x 95 ½" (1207 mm x 2426 mm)
Thicknesses:	2" (51 mm) – 4.5" (114 mm)

EnergyGuard™ HD/HD Plus and EnergyGuard™ NH HD/HD Plus Polyiso Cover Board

A flat high-density polyiso cover board with an R-value of 2.5 — which is higher than any other type of non-polyiso cover board — at 11 lb. and 13 lb. (4.99 kg and 5.90 kg) respectively, per 4' x 8' (1.2 m x 2.4 m) board, they're a fraction of the weight of gypsum cover boards. Meets the requirements of ASTM D3273 for resistance to mold growth.*

ASTM C1289 Type IV, Grade 2 (80 psi min) or Grade 3 (110 psi min)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) and 4' x 8' (1.2 m x 2.4 m)
Thicknesses:	0.5" (12.7 mm)

EnergyGuard™ HD Barrier and EnergyGuard™ NH HD Barrier Polyiso Cover Board

The features of EnergyGuard™ HD and EnergyGuard™ NH HD Polyiso Cover Board, with an ANSI/UL 790 Class A Roofing Fire-Resistance Rating over combustible decks with a ½" (12.7 mm) board thickness.
ASTM C1289 Type IV, Grade 2 (80 psi min)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) and 4' x 8' (1.2 m x 2.4 m)
Thicknesses:	0.5" (12.7 mm)

EnergyGuard™ HD-MA Polyiso Cover Board

A flat high-density polyiso coverboard with GRF facers for mechanically attached single ply systems only. An economical choice of a polyiso cover board.

Panels	Measurements
Sizes:	4' x 8' (1.2 m x 2.4 m)
Thicknesses:	0.5" (12.7 mm)
Compressive Strength:	80 psi (551 kPa) min. - 109 psi (751 kPa) max.

* GAF warranties and guarantees do not provide coverage for mold or other biological growth. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions.
† Recycled content ranges from 13% to 41% depending upon product thickness.
For current code compliance and standard approvals, refer to the individual product data sheets on GAF.com or use the QR codes in this catalog.

About **Tapered** Polyiso Insulation

Standing or "ponding" water can threaten the integrity and longevity of a commercial roof system. Left unaddressed, standing water will add weight to the roof and may eventually lead to leaks and bacteria growth — which can degrade the components of the roof assembly. A tapered polyiso insulation system incorporates a combination of flat and tapered panels that provide slope on an otherwise low-slope (flat) roof deck to ensure positive drainage.

* GAF warranties and guarantees do not provide coverage for mold or other biological growth. Refer to gaf.com for more information on warranty and guarantee coverage and restrictions.

Tapered products and services

GAF Tapered Design Group

Whether you need ideas on layout strategies, solutions to challenging field conditions, or suggestions for labor and material savings, you can rely on your regionally dedicated GAF tapered insulation design specialist. From conceptual tapered design and material selection to shipment breakouts and order management, our team of design specialists is here to help.

Takeoff requests: tdg@gaf.com or visit gaf.com/tapereddesign

Tapered Loading Diagrams

Comprehensive loading diagrams to help increase efficiency in staging and offloading are available upon request.

4' x 8' Tapered Q Panels

Save on labor and decrease the required number of boards and cuts by using 4' x 8' rather than 4' x 4' EnergyGuard™ Tapered panels. For field-fabricated crickets, request 4' x 8' Q panels.

EnergyGuard™ Tapered and EnergyGuard™ NH Tapered Polyiso Insulation

Sloped polyiso insulation with a GRF facer.
ASTM C1289 Type II, Class 1, Grade 2 (20 psi) or Grade 3 (25 psi)

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) (4' x 8' panels available as special order)
Slopes:	1/16:12 (1.6 mm), 1/8:12 (4.8 mm), 3/16:12 (3.2 mm), 1/4 :12 (9.5 mm), 3/8:12 (6.35 mm), 1/2:12 (12.7 mm)

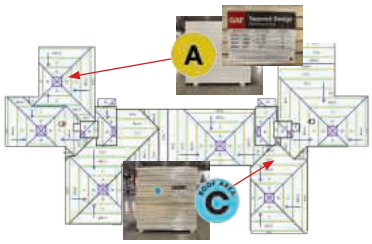
EnergyGuard™ Ultra Tapered and EnergyGuard™ Ultra NH Tapered Polyiso Insulation

Sloped polyiso insulation with a CGF facer.
ASTM C1289 Type II, Class 2, Grade 2 (20 psi) or Grade 3 (25 psi). Meets the requirements of ASTM D3273 for resistance to mold growth.*

Panels	Measurements
Sizes:	4' x 4' (1.2 m x 1.2 m) (4' x 8' panels available as special order)
Slopes:	1/16:12 (1.6 mm), 1/8:12 (4.8 mm), 3/16:12 (3.2 mm), 1/4 :12 (9.5 mm), 3/8:12 (6.35 mm), 1/2:12 (12.7 mm)

Load and Label by Area

Maximize efficiency sorting, unloading, staging, and installing polyiso bundles when you order flat and tapered panel bundles (including mixed bundles!) presorted and pre-labeled by roof area.



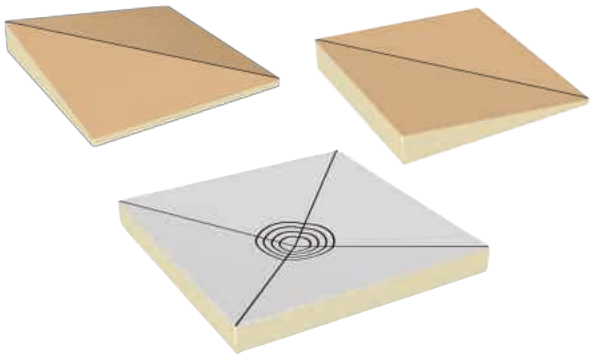
Tapered Double Packs

Contains two 4' x 4' bundles to help save time staging, unloading, and on cranes. Available in tapered, fill, and cover boards for tapered design projects only.

Pre-cut Hips, Valleys, and Sumps

These products ship ready to install as part of your tapered design.

Hips and Valleys are available in EnergyGuard™, EnergyGuard™ Ultra, EnergyGuard™ NH, and EnergyGuard™ NH Ultra formulas. Pre-cut sumps include circle marks to guide cutting the center to access the drain, and are available in EnergyGuard™ Ultra Tapered 25 psi only. Limited availability.



Polyiso **Resources**

Flat Polyiso Insulation

Available in 4' x 4' and 4' x 8' panels

Size (in.)	R-value LTTR**	Max flute span (in.)	Bds/ bundle
1.0	5.7	2 5/8	48
1.1	6.3	2 5/8	43
1.2	6.8	2 5/8	38
1.3	7.4	3 5/8	36
1.4	8.0	4 3/8	34
1.5	8.6	4 3/8	32
1.6	9.1	4 3/8	30
1.7	9.7	4 3/8	28
1.75	10.0	4 3/8	27
1.8	10.3	4 3/8	25
1.9	10.8	4 3/8	25
2.0	11.4	4 3/8	24
2.1	12.0	4 3/8	22
2.2	12.6	4 3/8	21
2.3	13.2	4 3/8	20
2.4	13.8	4 3/8	20
2.5	14.4	4 3/8	19
2.6	15.0	4 3/8	18
2.7	15.6	4 3/8	17
2.8	16.2	4 3/8	17
2.9	16.8	4 3/8	16
3.0	17.4	4 3/8	16
3.1	18.0	4 3/8	15
3.2	18.6	4 3/8	15
3.25	18.9	4 3/8	14
3.3	19.2	4 3/8	14
3.4	19.9	4 3/8	14
3.5	20.5	4 3/8	13
3.6	21.1	4 3/8	13
3.7	21.7	4 3/8	12
3.8	22.3	4 3/8	12
3.9	23.0	4 3/8	12
4.0	23.6	4 3/8	12
4.1	24.2	4 3/8	11
4.2	24.8	4 3/8	11
4.3	25.4	4 3/8	11
4.4	26.0	4 3/8	10
4.5	26.6	4 3/8	10
4.6	27.1	4 3/8	10

Tapered Polyiso Insulation

Available in 4' x 4' panels, as well as 4' x 8' by special request*

	Board style	Dimension (in.)	Average thickness (in.)	Bds/ bundle
1/8"	AA	0.5 – 1	0.75	64
	A	1 – 1.5	1.25	38
	B	1.5 – 2	1.75	26
	C	2 – 2.5	2.25	20
	D	2.5 – 3	2.75	16
	E	3 – 3.5	3.25	14
	F	3.5 – 4	3.75	12
	FF	4 – 4.5	4.25	10
1/4"	X	0.5 – 1.5	1	48
	Y	1.5 – 2.5	2	24
	Z	2.5 – 3.5	3	16
	ZZ	3.5 – 4.5	4	12
	G	1 – 2	1.5	32
	H	2 – 3	2.5	18
	I	3 – 4	3.5	12
1/2"	Q	0.5 – 2.5	1.5	32
	QQ	2.5 – 4.5	3.5	12
	XX	1 – 3	2	22
3/16"	JJ	0.5 – 1.25	0.875	50
	KK	1.25 – 2	1.625	26
	LL	2 – 2.75	2.375	20
	MM	2.75 – 3.5	3.125	15
	J	1 – 1.75	1.375	34
	K	1.75 – 2.5	2.125	22
	L	2.5 – 3.25	2.875	16
	M	3.25 – 4	3.625	12
3/8"	SS	0.5 – 2	1.25	38
	TT	2 – 3.5	2.75	16
	S	1 – 2.5	1.75	27
1/16"	1	0.5 – 0.75	0.625	72
	2	0.75 – 1	0.875	52
	3	1 – 1.25	1.125	40
	4	1.25 – 1.5	1.375	32
	5	1.5 – 1.75	1.625	28
	6	1.75 – 2	1.875	24
	7	2 – 2.25	2.125	20
	8	2.25 – 2.5	2.375	18

* Special orders on certain boards subject to quantity minimums.

For flat panel packaging and shipping information, scan here

For tapered packaging, shipping, and profile information, scan here

For a full list of EnergyGuard™ Tapered Panel Profiles

For more information on tapered design services and standard layout designs

Visit **gaf.com/commercial**

For additional information, contact GAF Design Services at **1-877-423-7663** or **designservices@gaf.com**

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