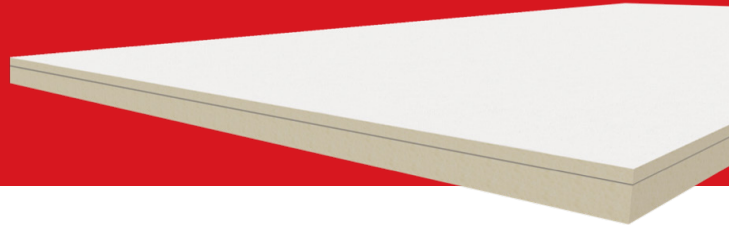


HD Composite Polyiso Insulation with CGF Facers



GAF UltraHD Composite Insulation



Description:

Ultra HD Composite Insulation is a non-structural composite roofing panel comprised of a top layer of EnergyGuard™ HD cover board (80 psi) manufactured online to a bottom layer of EnergyGuard™ Ultra creating a monolithic panel. All panels of the composite are faced with coated glass for increased durability and mold resistance.**

Features and Benefits:

- FM-Approved for fully adhered and mechanically attached systems (consult RoofNav.com for specific assemblies)
- Combines the maximum durability and R-value of HD cover board with the versatility and thermal efficiency of Ultra polyiso insulation
- Reduces handling and labor, and eliminates one full application of adhesive in adhered systems
- Suitable in a single-layer application or in a two-layer system with a base layer of polyiso to inhibit thermal bridging and enhance energy efficiency
- Compatible with single-ply, BUR, and modified bitumen roofing systems
- Ideal for new construction and retrofit applications; compatible with some solar arrays and photovoltaic systems

- When installed in accordance with manufacturer's specifications, Ultra HD Composite Insulation provides premium performance, improved moisture resistance, and enhanced durability against rooftop traffic and hail damage
- Lightweight: up to 4 times lighter than gypsum cover boards
- Meets the requirements of D3273 for resistance to mold growth**

Panel Characteristics:

Sizes: 47 1/2" x 47 1/2" (1207 mm x 1207 mm) and 47 1/2" x 95 1/2" (1207 mm x 2426 mm)

PSI: 80 psi for EnergyGuard™ HD top layer, 20 psi for EnergyGuard™ Ultra bottom layer

Codes and Compliances:

- Top Layer: Meets the requirements of ASTM C1289 Type II Class 4 Grade 1 (80 psi); Bottom Layer: Meets the requirements of ASTM C1289 Type II Class 2 Grade 2 (20 psi)
- FM Approved — consult RoofNav.com for specific assemblies
- Refer to UL Product iQ for specific assemblies
- SH-1 Severe Hail rating



Sustainability:

- Manufactured with EPA-compliant blowing agents containing no CFCs or HCFCs, has zero ozone depletion potential (ODP), and negligible global warming potential (GWP)
- Green Guard Gold
- Potential LEED® Credits for Polyiso Use
- Environmental Product Declaration (EPD)



ULTRA HD COMPOSITE THERMAL VALUES:

Thickness	R-Value
1.5"	8.2
2.0"	11.1
2.5"	13.9
3.0"	16.9
3.5"	19.9
4.0"	23.0
4.5"	26.1

Other thicknesses available upon request. In a two-layer system, the base layer under Ultra HD Composite can be EnergyGuard™ or EnergyGuard™ Ultra to achieve additional thermal value.

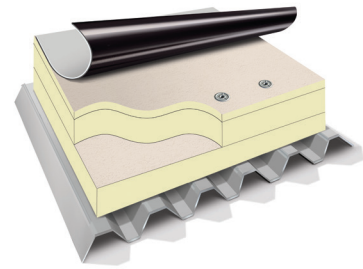


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GAF UltraHD Composite Insulation



Two-layer system: EnergyGuard™ Ultra base layer, Ultra HD Composite, TPO

Warnings and Limitations:

- HD Ultra Composite Insulation should be stored and 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 in 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 Ultra HD Composite Insulation will present a fire hazard. A properly installed fiberglass base sheet must be used over insulation.
- Refer to application specifications in the current membrane manufacturers application and specifications manual for proper installation procedures.
- Refer to PIMA Technical Bulletin 109, "Storage and Handling Recommendations for Polyiso Roof Insulation" at polyiso.org.

TYPICAL PHYSICAL PROPERTY DATA: TOP LAYER ENERGYGUARD™ HD

Property	Test Method	Minimum Values
Compressive Strength	ASTM D1621	80 psi min (551 kPa) to 109 psi max (751 kPa)
Dimensional Stability (length and width)**	ASTM D2126	<1% linear change

TYPICAL PHYSICAL PROPERTY DATA CHART: BOTTOM LAYER ENERGYGUARD™ ULTRA

Property	Test Method	Minimum Values
Compressive Strength	ASTM D1621	20 psi (138 kPa)
Dimensional Stability (length and width)**	ASTM D2126	<2% linear change

TYPICAL PHYSICAL PROPERTIES OF BOTH ENERGYGUARD™ HD AND ENERGYGUARD™ ULTRA

Property	Test Method	Minimum Values
Flexural Strength	ASTM C203	40 psi min (275 kPa)
Tensile Strength	ASTM C209	500 psf (24 kPa)
Water Absorption (percent by volume, max)	ASTM C209	1.5% max
Vapor Permeance	ASTM E96, Procedure A	1.5 perm max (85.8 ng/Pa·s·m ²)
Service Temperature		-100° F to 250° F (-73.3° C to 121.1° C)
Flame Spread Index*	ASTM E84	< 75*
Smoke Developed Index	ASTM E84	< 200*
Resistance to Mold**	ASTM D3273	Pass (10)

* Foam Core

** Stated dimensional stability tolerance: board thickness shall not diminish by more than 2% max.

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

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



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