ENERGYGUARD™
NH BARRIER POLYISO INSULATION

Description

EnergyGuard™ NH Barrier Polyiso Insulation consists of coated glass-fiber and a special coated glass-fiber laminated to a closed-cell polyisocyanurate foam core. At GAF, we're committed to providing sustainable products — so our new EnergyGuard™ NH Barrier Polyiso Insulation Board does just that. It meets all the inherent properties and performance polyiso is known for, such as one of the highest insulation values and a UL Class A roofing fire rating, but does not contain any halogenated flame retardants — making it your best choice for a sustainable building design.

- EnergyGuard™ NH Barrier Polyiso Insulation achieves an ANSI UL790 Class A roofing fire rating over combustible decks with a 1" (25.4 mm) board thickness. Available in 4' x 4' (1.21 m x 1.21 m) or 4' x 8' (1.21 m x 2.44 m) and in thicknesses ranging from 1" to 4.6" (25.4 mm x 116 mm).
- When properly installed, it is suitable for use under built-up, modified bitumen, and most single-ply roofing systems.
- Refer to the application specifications in the current membrane manufacturer's application and specifications manual for proper installation procedures.

Advantages

- High insulation value — Polyiso provides excellent "LTTR" value compared to any other foam board insulation.
- Manufactured with EPA-compliant blowing agents.
- Lightweight — Lighter than most other insulating products offering comparable thermal resistance; as much as five times lighter in weight than any other materials with the same R-value.
- Excellent dimensional stability.
- Low water permeability — Lower overall perm rating than many conventional insulation boards.
- High moisture resistance and no capillarity; is stable and maintains its physical and insulating characteristics.
- Easier handling and faster to install — Because of its light weight, this material is easier to handle on the jobsite and installs faster. Easier cutting in the field provides the installer with simplified fabricating on the roof deck. Minimizes on-the-job damage.

Limitations and Potential Fire Hazard

- EnergyGuard™ NH Barrier Polyiso Insulation is a non-structural, non-load-bearing material. It is not designed for direct traffic usage unless adequately protected.
- EnergyGuard™ NH Barrier Polyiso Insulation should be stored dry and protected from the elements. 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 Barrier Polyiso Insulation will present a fire hazard. A properly installed fiberglass base sheet MUST be used over the insulation.

WARNING: DO NOT EXPOSE TO OPEN FLAME OR EXCESSIVE HEAT. MAY SMOLDER IF IGNITED. IF IGNITED, EXTINGUISH COMPLETELY.

Code Compliance

- Meets ANSI/UL790.
- Listed by Underwriters Laboratories for use as part of an ANSI UL790 Class A, B, or C Roof Covering System. See UL LLC Online Certifications Directory for details.
- Mechanical attachment of roof insulation is the most dependable method of attachment to steel decks since it minimizes lateral movement and wind blow-off.
- Federal Specification HH-I-1972/2.

Thermal and Physical Characteristics[1]

Thickness* Inches	Thickness* mm	LTTR R-Value**	Max. Flute Spanability Inches	Max. Flute Spanability mm
1.0	25.4	5.7	2 5/8	66.7
1.1	27.9	6.3	2 5/8	66.7
1.2	30.5	6.8	2 5/8	66.7
1.3	33.0	7.4	2 5/8	66.7
1.4	35.6	8.0	4 3/8	111
1.5	38.1	8.6	4 3/8	111
1.6	40.6	9.1	4 3/8	111
1.7	43.1	9.6	4 3/8	111
1.75	44.5	10.0	4 3/8	111
1.8	45.7	10.2	4 3/8	111
1.9	48.3	10.8	4 3/8	111
2.0	51	11.4	4 3/8	111
2.1	53	12.0	4 3/8	111
2.2	56	12.6	4 3/8	111
2.3	58	13.2	4 3/8	111
2.4	61	13.8	4 3/8	111
2.5	64	14.4	4 3/8	111
2.6	66	15.0	4 3/8	111
2.7	69	15.6	4 3/8	111
2.8	71	16.2	4 3/8	111
2.9	74	16.8	4 3/8	111
3.0	76	17.4	4 3/8	111
3.1	79	18.0	4 3/8	111
3.2	81	18.6	4 3/8	111
3.25	83	18.9	4 3/8	111
3.3	84	19.2	4 3/8	111
3.4	86	19.9	4 3/8	111
3.5	89	20.5	4 3/8	111
3.6	91	21.1	4 3/8	111
3.7	94	21.7	4 3/8	111
3.8	97	22.3	4 3/8	111
3.9	99	23.0	4 3/8	111
4.0	102	23.6	4 3/8	111
4.1	104	24.2	4 3/8	111
4.2	106	24.8	4 3/8	111
4.3	109	25.4	4 3/8	111
4.4	112	26.0	4 3/8	111
4.5	114	26.6	4 3/8	111
4.6	116	27.1	4 3/8	111

*Other thicknesses available upon request.

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

[1]Note: Physical and thermal properties shown are based on data obtained under controlled laboratory conditions and are subject to normal manufacturing tolerances.

Code Compliance

(Cedar City, UT; 2" [51 mm] thick or greater)

ASTM C1289 Type II, Class 2, Grade 2*

*Stated Dimensional Stability Tolerance: Board thickness shall not diminish by more than 2% max.Grade 3 – 25 psi available.

Typical Physical Properties

Property	Value	Test Method
Water Absorption, % by Volume – 2 hours (under 1" [25.4 mm] water)	1.5 max.	ASTM C209
Dimensional Stability Change, 7 days @158°F (70°C), 97% RH • Length + Width	<2%	ASTM D2126
Compression Strength — psi (kPa)	25 (172) nom. Grade 3 20 (138) nom. Grade 2	ASTM D1621
Tensile Strength — psf (kPa)	≥ 500 (23.9)	ASTM C209
Moisture Vapor Transmission[1]	<1.5 perm (57.5ng/Pa•s•m²)	ASTM E96 (Procedure A)
Flame Spread[1, 2]	<75	ASTM E84
Service Temperature	-100 to 200°F (-73.3 to 93.3°C)	
Resistance To Mold	Pass (10)	ASTM D3273

[1]Foam core only.

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

EnergyGuard™ NH Barrier Polyiso Insulation