

EnergyGuard™ NH HD & NH HD PLUS Polyiso Insulation Data Sheet

Updated: 2/17



*Quality You Can Trust... From
North America's Largest Roofing Manufacturer!™*



ENERGYGUARD™ NH HD & NH HD PLUS

POLYISO INSULATION (1 of 2)

Description

EnergyGuard™ NH HD and NH HD PLUS Polyiso Insulation Board are made of coated glass facers bonded to a core of non-halogenated isocyanurate foam, which is better for the environment. EnergyGuard™ NH HD and EnergyGuard™ NH HD PLUS Polyiso Insulation hold a Health Product Declaration (HPD) and are Red List Free products with Declare label designations. Sustainable design projects pursuing certifications under a green building rating system such as LEED® v4 or Living Building Challenge will benefit from these certifications and listings. See our GAF LEED® V4 Playbook at www.gaf.com/green.

Uses

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 membrane installation procedures.

- 4' x 4' (1.21 m x 1.21 m) ½" (12.7 mm) thick NH HD or NH HD PLUS may be hot asphalt-adhered to substrates.
- Fleece-back TPO may be hot asphalt-adhered to ½" (12.7 mm) HD or HD PLUS.
- Meets ASTM C1289 Type 2, Class 4, Grade 1 (80 psi) and Grade 2 (110 psi).
- Meets FM 4450/4470 – Consult RoofNav.com for specific assemblies
- UL790/ASTM E108 Class A Roofing Fire Rating – Refer to UL's Online Certification Directory for actual assemblies
- Meets FM Approval criteria for severe hail damage resistance (Class 1-SH) when FM Approved as a component of a Class 1-SH rated roofing assembly. Refer to RoofNav® (<https://roofnav.fmglobal.com/>) for specific assembly approvals.
- FM Approvals specification tested per FM 4473 for Class 3 impact resistance as a component of a Class 3 rated roofing assembly. Refer to the FM Approval Guide (<http://www.approvalguide.com/>) for Specification Tested roofing assemblies.

Advantages

NH HD and NH HD PLUS have an R-value of 2.5, the highest of any cover board – and, at 11 lb. and 13 lb. (4.99 kg and 5.90 kg), respectively, per 4' x 8' (1.2 m x 2.44 m) board, they're a frac-

tion of the weight of gypsum cover boards.

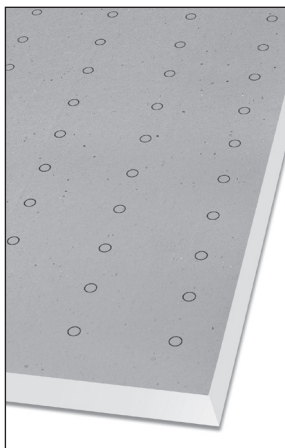
- With over 80 psi compressive strength for NH HD and 110 psi for NH HD PLUS and a durable coated glass facer, NH HD and NH HD PLUS are ideal boards for protecting your roof against the elements.
- Manufactured with EPA-compliant blowing agents. Contains no CFCs or HCFCs; has zero ODP.
- Excellent dimensional 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.

Limitations and Potential Fire Hazard

- NH HD and NH HD PLUS are non-structural, non load-bearing materials. They are not designed for direct traffic usage unless adequately protected.
- Direct torching of modified bitumen membranes to NH HD and NH HD PLUS is not approved.
- Direct mopping of modified bitumen and built-up roofing (BUR) to NH HD and NH HD PLUS is not approved.
- NH HD and NH HD PLUS Polyiso Insulation should be stored dry 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 on the same day.
- As unprotected polyisocyanurate will burn, fire safety precautions should be observed wherever insulation products are used.

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

EnergyGuard™ NH HD and NH HD PLUS Polyiso Insulation



Code Compliance



*Product certified at time of publication. Consult with manufacturer and the PIMA quality mark program directory on the PIMA website (www.pima.org).



ENERGYGUARD™ NH HD & NH HD PLUS

POLYISO INSULATION (2 of 2)

| NH HD Physical Properties* | | |
|---|------------------------------|-------------|
| Property | Value | Test Method |
| Compressive Strength | Min. 80 psi. | ASTM D1621 |
| Dimensional Stability (7 days at 158°F [70°C] 97% RH) | Less than 0.5% linear change | ASTM D2126 |
| Water Absorption (2 Hrs. under 1" [25.4 mm] water) | Less than 1.5% by volume | ASTM C209 |
| Resistance to Mold | Passed (10) | ASTM D3273 |
| Service Temperature | 260°F (126.7°C) or less | |
| Recycled Content | Max. 8% | |
| Tensile Strength | Min. 5000 psf | ASTM C209 |

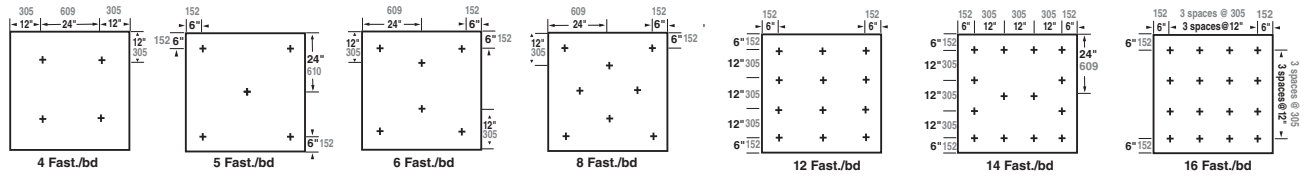
*Foam core only.

| NH HD PLUS Physical Properties* | | |
|---|------------------------------|-------------|
| Property | Value | Test Method |
| Compressive Strength | Min. 110 psi. | ASTM D1621 |
| Dimensional Stability (7 days at 158°F [70°C] 97% RH) | Less than 0.5% linear change | ASTM D2126 |
| Water Absorption (2 Hrs. under 1" [25.4 mm] water) | Less than 1.5% by volume | ASTM C209 |
| Resistance to Mold | Passed (10) | ASTM D3273 |
| Service Temperature | 260°F (126.7°C) or less | |
| Recycled Content | Max. 8% | |
| Tensile Strength | Min. 5000 psf | ASTM C209 |

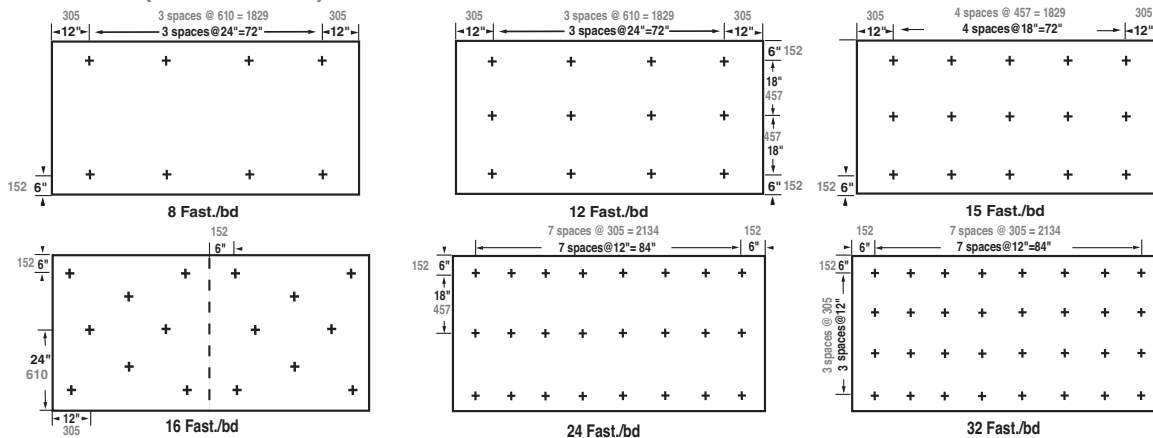
*Foam core only.

Design Considerations – Suggested Insulation Fastener Patterns (NOTE: Measurements in GRAY are in millimeters)

4' x 4' (1220 x 1220) Boards



4' x 8' (1220 x 2440) Boards



NOTE: These patterns are for FM Approved decks utilizing appropriate FM Approved screws and plates. Consult FM Loss Prevention Data Sheets 1-29 for specific perimeter and corner fastening details. For proper attachment, fasteners must penetrate the flange or the metal deck a minimum of 3/4 inch (19.1 mm). Due to ongoing testing programs and changes in FM Global (FM) requirements, the number of fasteners and their placement are subject to change without notice. Consult current FM Approvals Guide and Loss Prevention Data Sheets 1-28, 1-29, and 1-29R for approved fastener density for Isotherm Roof Insulations. If your fastener pattern is not listed, please contact Technical Services at 1-800-766-3411.