

H-SHIELD NB

Flat Polyisocyanurate Insulation Manufactured On-Line to Oriented Strand Board

H-Shield NB

PRODUCT DESCRIPTION

H-Shield NB is a rigid roof insulation composite panel composed of a closed cell polyisocyanurate foam core manufactured on-line to a fiber reinforced facer on one side and either $\frac{7}{16}$ " or $\frac{5}{8}$ " oriented strand board (OSB) on the other. H-Shield NB can also be manufactured off-line using a FM approved adhesive

FEATURES AND BENEFITS

- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- A superior combination of high insulating properties and a nailable surface
- Suitable for new construction and re-roofing on both commercial and residential projects
- Incorporates APA-TECO Rated Exposure 1 OSB
- The edges of the wood panels are rabbeted to allow for expansion and contraction of the wood, the foam edges shall be installed tightly to achieve thermal integrity across the entire roof deck
- Also available as a non-rabbeted panel upon special request only
- H-Shield NB is also available bonded to plywood in an off-line process
- Hail Rating: SH-1

PANEL CHARACTERISTICS

- Available size is 47.5"x95.5" when rabbeted on line in thicknesses of 1.5" (38mm) to 4.0" (102mm)
- Available in 4'x8' when non-rabbeted in thicknesses of 1.5" (38mm) to 4.0" (102mm)
- Available in two compressive strengths per ASTM C 1289 Type V, Grade 2 (20 psi) or Grade 3 (25 psi)
- Multiple Substrate Types Available:

OSB:

- $\frac{7}{16}$ " or $\frac{5}{8}$ "

Plywood:

- $\frac{5}{8}$ " or $\frac{3}{4}$ " CDX
- Fire-Treated

ROOFING APPLICATIONS

- H-Shield NB with $\frac{7}{16}$ " OSB is suitable for use with heavyweight shingles and standing seam metal roof systems
- H-Shield NB with $\frac{5}{8}$ " OSB is suitable for use with tile and slate roof systems
- Single-Ply Roof Systems - Ballasted, Mechanically Attached, Fully Adhered. (For high wind speed warranty — see individual Single-Ply manufacturer approvals and listings)

H-SHIELD NB THERMAL VALUES

THICKNESS [†] (INCHES)	(MM)	LTTT R-VALUE*	FLUTE SPANABILITY
1.5	38	6.3	4 3/8"
2.0	51	9.2	4 3/8"
2.5	64	12.0	4 3/8"
3.0	76	15.0	4 3/8"
3.5	89	18.0	4 3/8"
4.0	102	21.1	4 3/8"

*Long Term Thermal Resistance Values are based on ASTM C 1289.

†Thickness is calculated with 7/16" OSB.

H-Shield NB is only manufactured in the sizes listed above and on our packaging and weight chart. R-values other than those listed can be achieved by installing a multi layer system consisting of an additional layer of flat polyiso under H-Shield NB.

Codes and Compliances

- ASTM C 1289 Type V, Grade 2 (20 psi) or Grade 3 (25 psi)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 5968
- Miami Dade County Product Control Approved

Underwriters Laboratories Inc Classifications

- UL 1256
- Insulated Steel Deck Construction Assemblies – No. 120, 123
- UL 790
- UL 263 Hourly Rated P Series Roof Assemblies

UL Classified for use in Canada

- Refer to UL Directory of Products Certified for Canada for details

Factory Mutual Approvals

- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck constructions. Refer to FM Approval's RoofNav for details on specific systems

LEED Potential Credits for Polyiso Use

Energy and Atmosphere

- Optimize Energy Performance

Materials & Resources

- Building Life-Cycle Impact Reduction
- Environment Product Declarations
- Materials Reuse
- Recycled Content
- Construction and Demolition Waste Management



TYPICAL PHYSICAL PROPERTY DATA CHART PER ASTM C 1289 – POLYISO FOAM CORE ONLY

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621	20 psi* (138kPa, Grade 2)
Dimensional Stability	ASTM D 2126	2% linear change (7 days)
Moisture Vapor Transmission	ASTM E 96	< 1 perm (57.5ng/(Pa•s•m²))
Water Absorption	ASTM C 209	< 1% volume
Flame Spread**	ASTM E 84	< 75
Smoke Developed**	ASTM E 84	< 450
Service Temperature	–	-100° to 250° F (-73°C to 122°C)

*Also available in 25 psi, Grade 3

**Meets the requirements of the IBC code. For specific Flame Spread or Smoke Developed Ratings - please contact the Hunter Panels Technical Department

WARNINGS AND LIMITATIONS

Insulation must be protected from open flame and kept dry at all times. Install only as much insulation as can be covered the same day by completed roof covering material. Hunter Panels will not be responsible for specific building and roof design by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site or for improper storage and handling. Technical specifications shown in this literature are intended to be used as general guidelines only and are subject to change without notice.

For more information refer to the Storage and Handling Technical Bulletin at www.hunterpanels.com, or refer to PIMA Technical Bulletin No. 109: *Storage & Handling Recommendations for Polyiso Roof Insulation* at www.polyiso.org.

INSTALLATION

Shingles, Tiles, Slate, Metal and Membrane Roofing

H-Shield NB is installed, wood side up over steel, plywood or structural roof decks. Hunter SIP NB Panel Fasteners are required to secure the H-Shield NB to the steel or plywood deck. Wood blocking, if necessary, should be equal in thickness to the H-Shield NB and should be installed along the eaves and rake edges of the roof. The roofing system is then installed according to the manufacturer's recommendations.

H-Shield NB may be adhered to a properly prepared cementitious deck (with a full mopping of Type III or Type IV asphalt or a low rise adhesive) only when manufactured online.

All H-Shield NB manufactured off-line must be mechanically attached.

The Use of Synthetic Underlayments

The use of synthetic underlayments is becoming an industry norm (for steep slope applications). Hunter Panels strongly suggests the use of a synthetic underlayment under asphalt shingles unless otherwise specified by the shingle manufacturer. Synthetic underlayments provide excellent water resistance and absorb no moisture.

Vapor Retarders

The incorporation of a vapor barrier or retarder within the roofing assembly is highly recommended when the project is located in Zones 4 - 8 as determined by the International Code Council Dept. of Energy NW National Lab of the United States (map located at www.polyiso.org). Consult a licensed design professional, architect or engineer to establish whether or not a vapor barrier is necessary and to specify its type and location within the system. This is especially important during the construction phase when excessive moisture drive is present. Hunter Panels recommends that a dew point calculation be performed prior to the installation of any product. This calculation is based on the buildings interior relative humidity, interior temperature conditions and outside temperature. Excessive moisture migration and temperature fluctuations during construction will potentially damage the system and cause unwanted condensation and aesthetic anomalies.

Fastening Guidelines

Hunter Panels requires the use of the Hunter Panels SIP SD Panel Fastener for steel deck applications, the SIP WD for plywood deck applications, and SIP HD for heavy duty steel decks. Additional information on fasteners and fastening patterns are available on our website at www.hunterpanels.com.

H-Shield NB on Plywood Deck

Slate Roofing
Underlayment
H-Shield NB
(with plywood)
Vapor Barrier

H-Shield NB on Metal Deck

Metal Roofing
Underlayment
H-Shield NB
(with OSB)
Vapor Barrier

H-Shield NB two-layer system on Plywood Deck

Slate Roofing
Underlayment
H-Shield NB
(with Plywood)
H-Shield
Vapor Barrier

Refer to H-Shield NB Installation Guide for application specific installation instruction & fastener information.
(access a digital copy at www.hunterpanels.com or scan the QR code below)



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Energy Smart Polyiso

HUNTERPANELS.COM

15 FRANKLIN STREET, PORTLAND, ME 04101 • 888.746.1114 • FAX: 877.775.1769

