

H-SHIELD NB Polyisocyanurate Insulation Bonded 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 bonded during the manufacturing process to fiber reinforced facers on one side and either 7/16" or 5/8" oriented strand board (OSB) on the other. H-Shield NB can also be manufactured off-line using an 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 1/2" x 95 1/2" when rabbeted on line.
- Available in 4'x8' when non-rabbeted in thicknesses of 1.5" (38mm) to 4.5" (115mm).
- ASTM C1289, Type V
- Available with Certified  OSB or plywood (special order)
- Multiple Substrate Types Available:

- | | |
|-----------------|--------------------|
| OSB: | Plywood: |
| - 7/16" or 5/8" | - 5/8" or 3/4" CDX |
| | - fire-treated |

APPLICATIONS

- H-Shield NB with 7/16" OSB is suitable for use with heavyweight shingles and standing seam metal roof systems.
- H-Shield NB with 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)	LTTR R VALUE*	FLUTE SPANABILITY
1.5	38	6.60	4 3/8"
2.0	51	9.60	4 3/8"
2.5	64	12.70	4 3/8"
3.0	76	15.90	4 3/8"
3.5	86	19.10	4 3/8"
3.7	89	20.40	4 3/8"
3.8	96	21.00	4 3/8"
4.0	102	22.30	4 3/8"
4.5	115	25.60	4 3/8"

*Long Term Thermal Resistance Values are based on ASTM C1289 and CAN/ULC S770 which provides for a 15-year time weighted average.

Codes and Compliances

- ASTM C 1289 Type V, Class 2 Grade 2 (20 psi) Grade 3, (25 psi)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 5968
- Miami Dade County, FL NOA NO: 09-0915.15 — Exp. 1.14.2015

Underwriters Laboratories Inc Classifications

- UL 1256
- Insulated Metal Deck Construction Assemblies – No. 120, 123, 292
- 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

- Minimum Energy Performance · Optimize Energy Performance

Materials & Resources

- Building Reuse · Construction Waste Management
- Recycled Content · Local and Regional Materials
- FSC Wood Products

Innovation and Design



TYPICAL PHYSICAL PROPERTY DATA CHART POLYISO FOAM CORE ONLY

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621	20 psi* minimum
	ASTM C 1289	(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•m ²))
Water Absorption	ASTM C 209	< 1% volume
Service Temperature		-100° to 250° F (-73°C to 122°C)

*Also available in 25 PSI Minimum, Grade 3

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. Call Hunter Panels for more specific details, or refer to PIMA Technical Bulletin No. 109: *Storage & Handling Recommendations for Polyiso Roof Insulation.*

INSTALLATION

Shingles, Tiles, Slate, Metal and Membrane Roofing

H-Shield NB is installed, wood side up, over metal, wood or structural roof decks. Hunter SIP/NB Panel Fasteners are required to secure the H-Shield NB to the roof deck. Wood blocking, if necessary should be equal in thickness to the H-Shield NB, 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

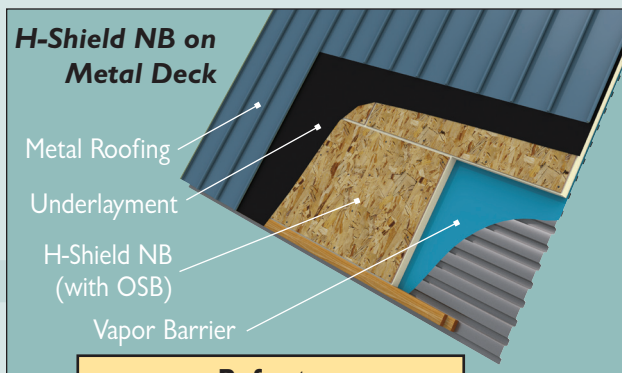
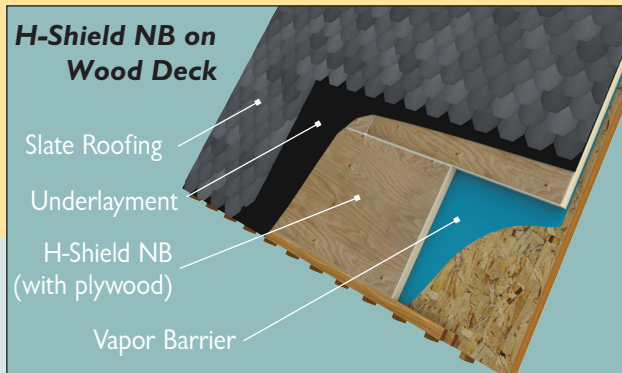
The use of synthetic underlayments is becoming an industry norm (for steep slope applications). Hunter Panels strongly suggests the use of a synthetic underlayment under asphalt shingles unless otherwise specified by the shingle manufacturer. Synthetic underlayments provide excellent water resistance 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 on 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 Panel SIP/SD Panel Fastener for steel deck applications and the SIP/WD for wood deck applications. See Fastening Pattern Guide for recommended fastening patterns.



**Refer to
Fastening Pattern Guide
for application specific
installation instructions &
fastener information**

HUNTER
Energy Smart Polyiso

HUNTERPANELS.COM

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

