



*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 7/16" on the other. H-Shield NB can also be manufactured off-line bonded to 5/8" OSB, 5/8" plywood, or 3/4" plywood.*

### APPLICATIONS

- Heavyweight Shingles
- Standing Seam Metal Roof Systems
- Tile
- Slate
- Single-Ply Roof Systems – Ballasted, Mechanically Attached, Fully Adhered. (For high wind speed warranty – see individual Single-Ply manufacturer approvals and listings)
- Suitable for new construction and re-roofing on both commercial and residential projects

### PANEL CHARACTERISTICS

- Manufactured with NexGen Chemistry: Contains no CFCs, HFCs, HCFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- A superior combination of high insulating properties and a nailable surface
- Incorporates APA-TECO Rated Exposure 1 OSB and Plywood
- 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. Available as a non-rabbeted panel upon special request.
- ASTM C 1289 Type V, Grade 2 (20 psi)
- Available foam size is 47.5"x95.5" when manufactured on-line in thicknesses of 1.5" (38mm) to 4.0" (102mm)
- Available in foam size is 48"x96" when manufactured off-line in thicknesses of 1.5" (38mm) to 4.0" (102mm)
- Multiple Substrate Types Available:  
**OSB:** 7/16" or 5/8" **Plywood:** 5/8" or 3/4" CDX Fire-Treated

### POTENTIAL LEED CREDITS FOR POLYISO USE

#### Energy and Atmosphere

- Optimize Energy Performance

#### Materials & Resources

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

#### Indoor Environmental Quality

- Thermal Comfort



### H-SHIELD NB THERMAL VALUES

Long Term Thermal Resistance Values are based on ASTM C 1289

| Thickness <sup>†</sup> |      | LTTR R-Value | Flute Spanability |
|------------------------|------|--------------|-------------------|
| (inches)               | (mm) |              |                   |
| 1.50                   | 38   | 6.3          | 4 3/8"            |
| 2.00                   | 51   | 9.2          | 4 3/8"            |
| 2.50                   | 64   | 12.0         | 4 3/8"            |
| 3.00                   | 76   | 15.0         | 4 3/8"            |
| 3.50                   | 89   | 18.0         | 4 3/8"            |
| 4.00                   | 102  | 21.1         | 4 3/8"            |

<sup>†</sup>Thickness is calculated with 7/16" OSB.

H-Shield NB is manufactured in the sizes listed above with additional sizes on our packaging and weights 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)
- International Building Code (IBC) Chapter 26
- State of Florida Product Approval Number FL 5968
- California Code of Regulations, Title 24, Insulation Quality Standard License #TI-1420
- Miami Dade County Product Control Approved
- Hail Rating: SH-1, VSH

### 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

## TYPICAL PHYSICAL PROPERTY DATA

Polyiso Foam Core Only

| Physical Property           | Test Method | Value                                       |
|-----------------------------|-------------|---|
| Compressive Strength        | ASTM D 1621 | 20 psi<br>(138kPa, Grade 2)                 |
| Dimensional Stability       | ASTM D 2126 | 2% linear change<br>(7 days)                |
| Moisture Vapor Transmission | ASTM E 96   | < 1 perm<br>(57.5ng/(Pa•s•m <sup>2</sup> )) |
| 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<br>(-73°C to 122°C)          |

\*\*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. Store above ground on pallets and cover with breathable tarpaulins. Install only as much Polyiso as can be covered the same day with the completed roofing system. Do not leave exposed. Hunter Panels will not be responsible for specific designs by others, for deficiencies in construction or workmanship, for dangerous conditions on the job site, or for improper storage and handling.

## INSTALLATION - SINGLE-PLY SYSTEMS

### 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 1/2" per ft. max slope 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

In building construction, vapor retarders are used to inhibit or block the passage of moisture into roofing assemblies. Vapor barriers also serve as air barriers to limit the movement of moisture-laden air from the interior to the exterior. This is especially important during the construction phase where excessive moisture drive is present. To determine whether a vapor retarder is necessary, we recommend that calculations on the building's interior relative humidity, interior temperature conditions, and outside temperature fluctuations during the various seasons be performed prior to the completion of the design. Excessive moisture migration can cause unwanted condensation that will potentially damage the system or infiltrate the occupied space. Hunter Panels strongly suggests the use of a vapor retarder with a perm value of 0.5 or less on all projects except in extreme cooling conditions. Consult a licensed design professional, architect or engineer to establish whether or not a vapor retarder is necessary and to specify its type and location within the assembly. This criteria varies with geographical location and is therefore specific to each project.

## 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](http://www.hunterpanels.com).

*Review manufacturer's specifications and details for complete installation information.*



Energy Smart Polyiso

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