H-SHIELD Flat Polyisocyanurate Insulation

PRODUCT DESCRIPTION
H-Shield is a rigid roof insulation panel composed of a closed cell polyisocyanurate foam core manufactured on-line to fiber reinforced facers on each side (GRF).

FEATURES AND BENEFITS
- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, HFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- Approved for direct application to steel decks
- Approved under all major roof covering systems – BUR, Modified and Single-Ply

PANEL CHARACTERISTICS
- Available in two grades of compressive strengths per ASTM C1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 psi)
- Available in 4’x4’ (1220mm x 1220mm) and 4’x8’ (1220mm x 2440mm) panels in thicknesses of 1” (25mm) to 4.5” (114mm)

ROOFING APPLICATIONS
- Constructions requiring FM Class 1 and UL Class A ratings
- Single-Ply Roof Systems (Ballasted, Mechanically Attached, Fully Adhered)
- Standing Seam Metal Roof Systems
- Modified Bitumen Systems
- Built-Up Roofing: Asphalt and Coal Tar

H-SHIELD THERMAL VALUES

<table>
<thead>
<tr>
<th>THICKNESS (INCHES)</th>
<th>LTTR FLUTE SPANABILITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.00</td>
<td>5.7</td>
</tr>
<tr>
<td>1.50</td>
<td>8.6</td>
</tr>
<tr>
<td>1.80</td>
<td>10.3</td>
</tr>
<tr>
<td>2.00</td>
<td>11.4</td>
</tr>
<tr>
<td>2.50</td>
<td>14.4</td>
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<td>2.60</td>
<td>15.0</td>
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<tr>
<td>3.00</td>
<td>17.4</td>
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<td>3.50</td>
<td>20.5</td>
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<tr>
<td>3.80</td>
<td>22.3</td>
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<tr>
<td>4.00</td>
<td>23.6</td>
</tr>
<tr>
<td>4.30</td>
<td>25.5</td>
</tr>
<tr>
<td>4.50</td>
<td>26.8</td>
</tr>
</tbody>
</table>

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

Codes and Compliances
- ASTM C 1289 Type II, Class 1 Grade 2 (20 psi) or Grade 3 (25 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

Underwriters Laboratories Inc Classifications
- UL 1256
- Insulated Steel 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 more details
- CCMC 13460-L
- UL Certified for Canada, CAN/ULC-S126, CAN/ULC-S101, CAN/ULC-S107
- CAN/ULC-S704 Type 2, Class 3 (20 psi) or Type 3, Class 3 (25 psi)

Factory Mutual Approvals
- FM 4450, FM 4470
- Approved for Class 1 insulated steel deck constructions for 1-60 to 1-270. 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
- Environmental Product Declarations
- Materials Reuse
- Recycled Content
**Single-Ply Systems**

**Ballasted Single-Ply Systems**
Each H-Shield panel is loosely laid on the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer’s specifications.

**Mechanically Attached Single-Ply Systems**
Each H-Shield panel must be secured to the roof deck. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer’s specifications.

**Fully Adhered Single-Ply**
Each H-Shield panel must be secured to the roof deck. Maximum 4’x4’ (1220mm x 1220mm) panels of H-Shield may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer’s specifications.

**Built Up, Coal Tar And Modified Bitumen Systems (APP, SBS)**
Each H-Shield panel must be secured to the roof deck. Maximum 4’x4’ (1220mm x 1220mm) panels of H-Shield may be adhered to a prepared concrete deck or subsequent layers of insulation with a full mopping of hot steep asphalt, insulation adhesive or cold applied mastic. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer’s specifications.

*To achieve optimal thermal performance, Hunter Panels recommends installation of a multi-layered system with staggered joints.*

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**INSTALLATION**

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

*Also available in 25 psi, 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. 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.