

# H-SHIELD HD COMPOSITE CG ½" H-Shield HD Bonded to Premium Performance Polyiso



H-Shield HD Composite CG

## PRODUCT DESCRIPTION

H-Shield HD Composite CG is a unique composite insulation panel comprised of ½" high density polyiso cover board laminated during the manufacturing process to H-Shield CG rigid polyiso roof insulation. This product is ideal for commercial roofing projects that require high thermal efficiency combined with maximum durability in both new construction and retrofit applications. R-value is optimized with a thinner profile than any other insulation available on the market.

## FEATURES AND BENEFITS

- H-Shield HD Composite CG is produced on-line to achieve a monolithic panel that eliminates the need for cover boards, reduces inter-ply adhesives and saves labor.
- At 2" minimum thickness, approved for Class 1 insulated steel deck and UL Class A in virtually all roof assemblies.
- Passes ASTM Resistance to Mold Test
- Achieves Severe Hail rating - SH 1
- Top facer of ½" high density polyiso provides 100 psi compressive strength
- Available in thicknesses from 2" to 4.5" for total R-value in one-layer from 11.5 to 27.2
- H-Shield HD Composite CG products available in 4'x4' (1220mm x 1220mm) and 4'x8' (1220mm x 2440mm) panels

## H-SHIELD HD COMPOSITE THERMAL VALUES

THICKNESS (INCHES) (MM)		LTR R VALUE*	FLUTE SPANABILITY
2.00	51	11.5	4 ⅜"
2.25	57	13.8	4 ⅜"
2.50	64	14.6	4 ⅜"
3.00	76	17.8	4 ⅜"
3.25	83	19.1	4 ⅜"
3.50	89	21.0	4 ⅜"
4.00	102	24.2	4 ⅜"
4.25	108	25.5	4 ⅜"
4.50	114	27.2	4 ⅜"

H-Shield HD Composite R-Value is calculated by adding the R-value of H-Shield HD and H-Shield CG together.

\*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 II, Class 2 Grade 2 (20 psi) Grade 3, (25 psi)
- International Building Code (IBC) Chapter 26

## 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 more 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

### Innovation and Design



**H-SHIELD HD**

**TYPICAL PHYSICAL PROPERTY DATA CHART**

POLYISO FOAM CORE ONLY

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621 (modified)	100 psi
Dimensional Stability	ASTM D 2126	< 0.5% linear change (7 days)
Water Absorption	ASTM C 209	< 1% volume
Resistance to Mold	ASTM D 3273	Passed (10)
Service Temperature		260° F or less
Recycled Content		> 8%

**H-SHIELD CG**

**TYPICAL PHYSICAL PROPERTY DATA CHART**

POLYISO FOAM CORE ONLY

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621 ASTM C 1289	20 psi* minimum (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 <sup>2</sup> ))
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

**INSTALLATION**

**Single-Ply Systems**

**Ballasted Single-Ply Systems**

Each H-Shield HD Composite CG 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 HD Composite CG panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type). 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 HD Composite CG panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type). Maximum 4'x4' (1220mm x 1220mm) panels of H-Shield HD Composite CG may be adhered to a prepared concrete deck with a full mopping of hot steep asphalt. Application by cold adhesion also approved. 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**

Each H-Shield HD Composite CG panel must be secured to the roof deck with fasteners and plates (appropriate to the deck type). Maximum 4'x4' (1220mm x 1220mm) panels of H-Shield HD Composite CG may be adhered to a prepared concrete deck with a full mopping of hot steep asphalt. Application by cold adhesion also approved. Butt edges and stagger joints of adjacent panels. Install the roof covering according to the manufacturer's specifications.

**Re-Roofing Single-Ply Systems**

H-Shield HD Composite CG provides a singular and sustainable solution in retrofit applications when existing insulation is left in place. To facilitate compliance with ASHRAE 90.1 Standards for energy efficiency, H-Shield HD Composite CG can be installed in a single layer on top of intact and dry insulation after the Single-Ply membrane is removed. Butt edges and stagger the joints in accordance with good roofing practice and fasten as per manufacturer's specifications. The new Single-Ply membrane can then be installed over an insulation assembly that complies with the latest energy code requirements.

**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*.

**FASTENING REQUIREMENTS\***

FM RATING	MINIMUM THICKNESS	#OF FASTENERS PER 4X8 FIELD	PERIMETER	CORNER
1-60	2.0	8	20	20
1-75	2.0	8	20	32
1-90	2.0	8	20	32
1-105	2.0	20	32	32

\* Contact your membrane manufacturer for their specific fastening requirements

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Energy Smart Polyiso

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