

H-SHIELD HD COMPOSITE CG 1/2" H-Shield HD Manufactured On-Line to Premium Performance Polyiso

H-Shield HD Composite CG

PRODUCT DESCRIPTION

H-Shield HD Composite CG is composed of two products, H-Shield HD - a 1/2" hi-density polyiso cover board - manufactured on-line to H-Shield CG - a premium performance faced polyiso - creating a monolithic composite panel. 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.

PREMIUM PERFORMANCE ATTRIBUTES

- 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
- A minimum 3.0" thickness installed directly over a combustible deck will achieve a UL Class A
- Passed (10) ASTM D 3273 Resistance to Mold Test
- Hail rating - SH 1
- Top facer of 1/2" high-density polyiso provides 100 psi compressive strength
- Foam core base layer provides 20 psi

PANEL CHARACTERISTICS

- H-Shield HD Composite CG products available in 47.5"x47.5" (1207mm x 1207mm) and 47.5"x95.5" (1207mm x 2440mm) panels in thicknesses from 2" to 4" for total R-value in one layer from 11.1 to 23.0

H-SHIELD HD COMPOSITE CG THERMAL VALUES

THICKNESS (INCHES) (MM)	LTRR R-VALUE*	FLUTE SPANABILITY
2.00 51	11.1	4 3/8"
2.50 64	13.9	4 3/8"
3.00 76	16.9	4 3/8"
3.50 89	19.9	4 3/8"
3.60 91	20.5	4 3/8"
4.00 102	23.0	4 3/8"

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

*NEW Long Term Thermal Resistance Values are based on ASTM C 1289, effective 1/1/2014, which provides updated 15 year time weighted averages.

When H-Shield HD Composite CG with a base foam thickness greater than 3.5" is specified, Hunter Panels recommends the installation of a two layer system with staggered joints.

Codes and Compliances

- ASTM C 1289 Type IV
- International Building Code (IBC) Chapter 26

Underwriters Laboratories Inc Classifications

- UL 1256
- Insulated Metal 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 more details
- UL Certified for Canada, CAN/ULC-S126, CAN/ULC- S107
- CAN/ULC-S704 Type 3 Class 2

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 (PRE LEED V4)

For current LEED V4 contribution information go to www.PIMA.org or www.hpanels.com

Energy and Atmosphere

- Optimize Energy Performance · Measurement & Verification

Materials & Resources

- Material 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 (<i>modified</i>)	100 psi
Dimensional Stability	ASTM D 2126	< 0.5% linear change (7 days)
Water Absorption	ASTM C 209	< 1% volume
Flame Spread*	ASTM E 84	< 75
Smoke Developed*	ASTM E 84	< 450
Service Temperature	-	260° F or less
Recycle Content		> 8%

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

H-SHIELD CG

**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•m ²))
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

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 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

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 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.

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.

When H-Shield HD Composite CG with a base foam thickness greater than 3.5" is specified, Hunter Panels recommends the installation of a two layer system with staggered joints.

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.hpanels.com, or refer to PIMA Technical Bulletin No. 109: *Storage & Handling Recommendations for Polyiso Roof Insulation* at www.polyiso.org.

FASTENING REQUIREMENTS*

FM RATING	MINIMUM THICKNESS	#OF FASTENERS PER FIELD	PERIMETER	4X8 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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HUNTERPANELS.COM

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

