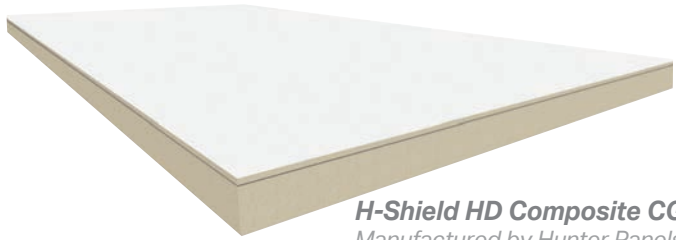


# H-SHIELD HD COMPOSITE CG

1/2" H-Shield HD Manufactured On-line to Premium Performance Polyiso  
For New and Retrofit Low-slope and Steel Deck Roofing Applications



**H-Shield HD Composite CG**  
Manufactured by Hunter Panels

## PRODUCT DESCRIPTION

H-Shield HD Composite CG is composed of two products, H-Shield HD - a 1/2" high-density polyiso cover board, manufactured on-line to H-Shield CG - a premium performance faced polyiso - creating a monolithic composite panel (CGF). 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 other insulations available on the market.

## PREMIUM PERFORMANCE ATTRIBUTES

- Bearing plates not required
- Manufactured with NexGen Chemistry: Contains no CFCs, HCFCs, HFCs, is Zero ODP, EPA Compliant, and has virtually no GWP
- 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
- A 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 in approved assemblies
- Top facer of 1/2" high-density polyiso Grade 1 (109 psi max)
- Foam core base layer provides 20 psi

## PANEL CHARACTERISTICS

- Available in 47.5"x47.5" (1207mm x 1207mm) and 47.5"x95.5" (1207mm x 2426mm) panels in thicknesses from 2" to 4" for total R-value in one layer from 11.1 to 23.0

## APPLICATIONS

- Constructions requiring FM Class 1 and UL Class A ratings

## LEED POTENTIAL CREDITS FOR POLYISO USE

### Energy and Atmosphere

- Optimize Energy Performance

### Materials & Resources

- Building Life-Cycle Impact Reduction
- Environment Product Declaration
- Material Reuse
- 9% Pre-consumer Recycled Content
- Construction and Demolition Waste Management

### Indoor Environmental Quality

- Thermal Comfort

## H-SHIELD HD COMPOSITE CG THERMAL VALUES

THICKNESS (INCHES)	(MM)	LTTR 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 \*Long Term Thermal Resistance Values are based on ASTM C 1289.

## H-SHIELD HD COMPOSITE CG PACKAGING AND WEIGHTS

4X8 PANELS						4X4 PANELS	
SIZE	LTTR	PCS	LBS/ PC	LBS/ PAL	LBS/ SF	LBS/ PC	LBS/ PAL
1.50	8.2	32	19.33	618.56	0.604	9.66	309.28
2.00	11.1	24	21.89	525.36	0.684	10.94	262.68
2.50	13.9	19	24.48	465.12	0.765	12.24	232.56
3.00	16.9	16	27.07	433.12	0.846	13.53	216.56
3.50	19.9	13	28.85	375.05	0.901	14.42	187.52
3.60	20.5	13	29.35	381.55	0.917	14.67	190.77
4.00	23.0	12	32.29	387.48	1.009	16.14	193.74

## CODES AND COMPLIANCES

- ASTM C 1289 Type IV
- International Building Code (IBC) Chapter 26
- Miami Dade County Product Control Approved
- State of Florida Product Approval No. FL 5968
- California Code of Regulations, Title 24, Insulation Quality Standard License #TI-1420

## 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 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

## THE USE OF METAL ROOFING UNDERLAYMENTS

PAC-CLAD strongly suggests the use of Carlisle's WIP 300HT on all warranted projects.

## VAPOR RETARDERS

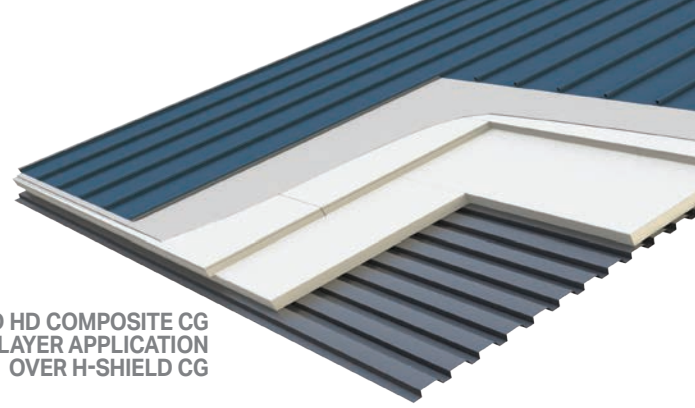
In building construction, vapor retarders are used to inhibit or block the passage of moisture into roofing assemblies. Vapor barriers also serve as air barriers to limit the movement of moisture-laden air from the interior to the exterior. This is especially important during the construction phase where excessive moisture drive is present. To determine whether a vapor retarder is necessary it is recommended 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. PAC-CLAD 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

PAC-CLAD requires the use of a 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 pac-clad.com.

## 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. PAC-CLAD 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 pac-clad.com, or refer to PIMA Technical Bulletin No. 109: Storage & Handling Recommendations for Polyiso Roof Insulation at www.polyiso.org.



**H-SHIELD HD COMPOSITE CG  
TWO LAYER APPLICATION  
OVER H-SHIELD CG**

**H-SHIELD HD TYPICAL PHYSICAL PROPERTY DATA CHART  
POLYISO FOAM CORE ONLY**

PROPERTY	TEST METHOD	VALUE
Compressive Strength	ASTM D 1621	Grade 1 (109 psi max)
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
Recycled Content		9% pre-consumer

\*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  
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 <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 (-73°C to 122°C)
Recycled Content		9% pre-consumer

\*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



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