

DensDeck® Prime Roof Board

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*Quality You Can Trust...From
North America's Largest Roofing Manufacturer!™*



DENSDECK®

PRIME ROOF BOARD

(1 of 2)

Manufactured by:



133 Peachtree Street, N.E.
Atlanta, GA 30303
Technical: 1-800-225-6119

Description

DensDeck® Prime Roof Board combines exceptional fire resistance, a thermal barrier, and recovery board for use in various commercial roofing systems with a pre-primed surface to make the bond even stronger. The patented DensDeck® Prime Roof Board design employs glass mat facings front and back that are embedded into a water-resistant and moisture-resistant treated gypsum core, providing excellent fire resistance, moisture resistance, and wind uplift properties. The unique construction of DensDeck® Prime Roof Board provides superior flute spanning and will help stiffen and stabilize the roof deck. Additionally, DensDeck® Prime Roof Board has been shown to withstand delamination, deterioration, warping, and job site damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiber board, and perlite insulation.

Primary Uses

Roof system manufacturers and designers have found DensDeck® Prime Roof Board to be compatible with many types of roofing systems, including modified asphalt, single ply, metal systems, and re-cover board, as well as an overlayment for polyisocyanurate and polystyrene insulation. DensDeck® can also be used as a foam board for poured gypsum concrete deck in roof applications as well as a substrate for spray form roofing systems. ½" (12.7 mm) and ⅝" (15.9 mm) DensDeck® Prime Roof Board may also be used in vertical applications as a backer board or liner for the roof side of parapet walls. Georgia-Pacific Gypsum offers a limited warranty for up to 90 days of exposure to normal weather conditions when applied vertically on parapet walls. For complete warranty details, visit DensDeck.com.

DensDeck® Prime Roof Board allows the bonding of cold mastic modified bitumen and torching directly to the surface. **Refer to specific membrane system application instructions.** System manufacturers and designers have found DensDeck® Prime Roof Board to be compatible with bonding adhesives for fully adhered single-ply membrane applications and has been shown to extend the adhesive usage.

DensDeck® Prime Roof Board's exceptional moisture resistance and low R-value make it the preferred substrate for vapor retarders. Having excellent fire resistance, DensDeck® Prime Roof Boards feature a noncombustible core and inorganic surface that offers greater fire protection than other conventional commercial roofing products when applied over combustible roof decks and steel decks. DensDeck® Prime Roof Board is FM tested and approved as the only ½" (12.7 mm) gypsum product to meet the calorimeter requirements for conventionally insulated decks. Tested in accordance with ASTM E84, its surface burning characteristics are Flame Spread-0 and Smoke Developed-0. ⅝" (15.9 mm) Dens Deck® Prime Roof Board can replace any generic type X gypsum board in any roof assembly in the UL Fire Resistance Directory under the prefix "P."

Limitations

DensDeck® Prime Roof Boards are designed to act with a properly designed roof system. The actual use of DensDeck® Prime Roof Board as a roofing component is the responsibility of the roofing system's designing authority.

Conditions beyond the control of Georgia-Pacific Gypsum such as weather conditions, dew, application temperatures, and techniques may cause adverse effects with adhered roofing systems. Always consult the roofing system specific manufacturer's instructions for applying the various roofing types to DensDeck® Prime Roof Board.

Panels must be kept dry before, during, and after installation. Apply only as much DensDeck® Prime Roof Board as can be covered by a roof membrane system in the same day.

Accumulation of water due to leaks or condensation in or on DensDeck® Prime Roof Board must be avoided during construction and after construction. Avoid over-use of non-vented direct-fired heaters during winter months. Avoid application of DensDeck® Prime Roof Board during rains, heavy fogs, and other conditions that may deposit moisture on the surface.

When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

Maximum flute span is 2-⅝" (66.7 mm) for ¼" (6.35 mm) DensDeck® Prime; 5" (127 mm) for ½" (12.7 mm) DensDeck® Prime; and 8" (203 mm) for ⅝" (15.9 mm) DensDeck® Prime Fireguard® Type X.

Refer to the installation instructions for the specific roof system to be installed for additional requirements.

Technical Data

Flame spread 0, smoke developed 0, when tested in accordance with ASTM E84 or CAN/ULC-S102. Noncombustible when tested in accordance with ASTM E136.

DensDeck® Prime Fireguard®: UL Classified when tested in accordance with ASTM E119.

¼" (6.35 mm) DensDeck® Prime Roof Board has been tested at FM approvals for 60 psf and 90 psf wind uplift for BUR, EPDM, thermoplastics, and modified bitumen roof systems. Higher wind uplift ratings have been achieved by numerous membrane manufacturers using DensDeck® Prime Roof Boards in their FM-approved construction designs.

Note: DensDeck® is a registered trademark of Georgia Pacific.

Product Specifications (nominal)

Thickness	¼" – 6 mm; ½" – 13 mm; ⅝" – 15.9 mm Fireguard® Type X
Widths	4' – 1.22 m standard, ⅛" – 3 mm tolerance
Lengths	8' – 2,440 mm standard, tolerance ¼" – 6.35 mm; Optional: 4' (1,220 mm) Available
Edges	Square
Spanning	¼" (6.35 mm) DensDeck® Prime Roof Board spans flute widths up to 2 ⅝" (66.7 mm)
	½" (12.7 mm) DensDeck® Prime Roof Board spans flute widths up to 5" (127 mm)
	⅝" (15.9 mm) DensDeck® Prime Roof Board spans flutes up to 8" (203 mm) wide



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Installation

- DensDeck® Prime Roof Board should be used with fasteners specified in accordance with FM requirements and roof membrane manufacturer's written recommendations.
- For wind uplift/FM compliance where DensDeck® Prime Roof Board is mechanically attached to metal decks, DensDeck® Prime Roof Board shall be installed to the specifics of the FM design assembly.
- For installations involving BUR, EPDM, thermoplastics, and modified bitumen roof systems, call GP's Technical Hotline at 1-800-225-6119 for fastener patterns of Georgia-Pacific's FMRC uplift assemblies.
- In accordance with approved shop drawings, FM-approved fasteners shall be installed with plates through the DensDeck® Prime Roof Board, flush with the surface.
- Where DensDeck® Prime Roof Board is installed over combustible wood decks or insulation, all joints should be staggered. The optional separator sheet should be installed prior to DensDeck® Prime Roof Board installation.
- Edge joints should be located on, and parallel to, deck ribs. End joints of adjacent lengths of DensDeck® Prime Roof Board should be staggered.
- DensDeck® Prime Roof Board shall be installed with ends and edges butted tightly.
- DensDeck® Prime Roof Board is manufactured to meet ASTM C1177.

PHYSICAL PROPERTIES

PROPERTIES	1/4" (6.4 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
Thickness, nominal	1/4" (6.4 mm) ± 1/16" (1.6 mm)	1/2" (12.7 mm) ± 1/32" (0.8 mm)	5/8" (15.9 mm) ± 1/32" (0.8 mm)
Width, standard	4' (1,219 mm) ± 1/8" (3 mm)	4' (1,219 mm) ± 1/8" (3 mm)	4' (1,219 mm) ± 1/8" (3 mm)
Length, standard	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)	4' (1,219 mm) & 8' (2,438 mm) ± 1/4" (6.4 mm)
Weight nominal, lbs./sq. ft. (Kg/m ²) ⁷	1.2 (5.9)	2.0 (9.8)	2.5 (12.2)
Surfacing	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating	Fiberglass mat with non-asphaltic coating
Flexural Strength ¹ , parallel, lbf. min. (N)	≥40 (178)	≥80 (356)	≥100 (444)
Flute Spanability ²	2-5/8" (66.7 mm)	5" (127 mm)	8" (203 mm)
Permeance ³ , perms (ng/Pa•S•m ²)	>30 (>1710)	>23 (>1300)	>17 (>970)
R Value ⁴ , ft ² •°F•hr/BTU (m ² •K/W)	.28	.56	.67
Lineal Variation with Change in Temp., in/in °F (mm/mm/°C)	8.5x10 ⁶ (15.3x10 ⁶)	8.5x10 ⁶ (15.3x10 ⁶)	8.5x10 ⁶ (15.3x10 ⁶)
Lineal Variation with Change in Moisture	6.25x10 ⁶	6.25x10 ⁶	6.25x10 ⁶
Water Absorption ⁵ , % max	<10.0	<10.0	<10.0
Compressive Strength ⁶ , psi nominal	900	900	900
Surface Water Absorption, grams, nominal ¹	<2.0	<2.0	<2.0
Flame Spread, Smoke Developed (ASTM E84, UL 723, CAN/ULC-S102)	0/0	0/0	0/0
Fire Classification	UL Classified FM Approvals	UL Classified FM Approvals	UL Classified FM Approvals
Bending Radius	4' (1,219 mm)	6' (1,829 mm)	8' (2,438 mm)

¹ Tested in accordance with ASTM C473, method B.

² Tested in accordance with ASTM E661.

³ Tested in accordance with ASTM E96 (dry cup method).

⁴ Tested in accordance with ASTM C518 (heat flow meter).

⁵ Specified values per ASTM C1177.

⁶ Tested in accordance with ASTM C473.

⁷ Represents approximate weight for design and shipping purposes. Actual weight may vary based on manufacturing location and other factors.

MOLD RESISTANCE. When tested, as manufactured, in accordance with ASTM D3273, DensDeck® Roof Boards have scored a 10, the highest level of performance for mold resistance under the ASTM D3273 test method. The score of 10, in the ASTM D3273 test, indicates no mold growth in a 4-week controlled laboratory test. The mold resistance of any building product when used in actual job site conditions may not produce the same results as were achieved in the controlled, laboratory setting. No material can be considered mold proof. For additional information, go to www.buildgpc.com/safetyinfo.