



G-P Gypsum

# DensDeck Prime®

## Roof Board

### Manufacturer

G-P Gypsum Corporation  
55 Park Place, 19th floor, Atlanta, GA 30303  
Technical Service Hotline 1-800-225-6119 or [www.densdeck.com](http://www.densdeck.com)

### Description

DensDeck Prime® Roof Board is an exceptional fire barrier, thermal barrier and recovery board used in various commercial roofing systems. The product features a pre-primed surface to make the bond even stronger. The patented DensDeck design employs glass mat facings front and back that are embedded into a water resistant and moisture-resistant treated core, providing excellent fire resistance, moisture resistance and wind uplift properties. The unique construction of DensDeck Prime provides superior flute spanning and will help stiffen and stabilize the roof deck. Additionally, DensDeck Prime has been shown to withstand delamination, deterioration, warping and jobsite damage more effectively than roofing membrane substrates such as paper-faced gypsum board, fiberboard and perlite insulation. DensDeck Prime resists the growth of mold and mildew per ASTM D 3273.

### 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, recover board, as well as an overlay for polyisocyanurate and polystyrene insulation. DensDeck Prime can also be used as a form board for poured gypsum concrete deck in roof applications as well as a substrate for spray foam roofing systems. 1/2" and 5/8" DensDeck Prime may also be used in vertical applications as a backer board or liner for the roof side of parapet walls.

DensDeck Prime Roof Board allows the bonding of cold mastic modified bitumen and torching directly to the surface. **Consult with the system manufacturer for recommendations on this application.** System manufacturers and designers have found DensDeck Prime 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 make it the preferred substrate for vapor retarders. An excellent fire barrier, DensDeck Prime features 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 is FM tested and approved as the only 1/2" gypsum product to meet the calorimeter requirements for conventionally insulated decks. Tested in accordance with ASTM E 84, its surface burning characteristics are Flame Spread-0 and Smoke Developed-0. 5/8" DensDeck Prime 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 Board is designed to act with a properly designed roof system. The actual use of DensDeck Prime as a roofing component is the responsibility of the roofing system's designing authority. Georgia-Pacific does not offer roofing system design services.

Conditions beyond the control of Georgia-Pacific such as weather conditions, dew, application temperatures and techniques may cause adverse effects with adhered roofing systems. Always consult roofing manufacturers for their specific instructions on applying their products 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 during rains, heavy fogs and other conditions that may deposit moisture on the surface.

The need for a separator sheet between the DensDeck Prime Roof Board and the roofing membrane shall be determined by the roof membrane manufacturer or roofing systems designer.

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 2-5/8" for 1/4" DensDeck Prime; 5" for 1/2" DensDeck Prime; and 8" for 5/8" DensDeck Prime Fireguard® Type X.

Consult membrane manufacturer for specific system installation instructions.

### Technical Data

Flame spread 0, smoke developed 0, when tested in accordance with ASTM E 84 or CAN/ULC-S102. Noncombustible when tested in accordance with ASTM E 136.

DensDeck Prime Fireguard: UL Classified when tested in accordance with ASTM E 119.

1/4" DensDeck Prime has been tested in G-P sponsored tests with Factory Mutual 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 in their FMRC approved construction designs.

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SUBMITTAL APPROVALS: (Stamps or Signatures)

- 1/4" – 6.4mm
- 1/2" – 12.7mm
- 5/8" – 16mm

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### Installation

- DensDeck Prime should be used with fasteners specified in accordance with FM requirements and roof membrane manufacturer's written recommendations.
- For wind uplift/FMRC compliance where DensDeck Prime is mechanically attached to metal decks, DensDeck Prime shall be installed to the specifics of the FMRC design assembly.
- For installations involving BUR, EPDM, thermoplastics and modified bitumen roof systems, call the G-P Technical Hotline at 1-800-225-6119 for fastener patterns of G-P's FMRC uplift assemblies.
- In accordance with approved shop drawings, FM-approved fasteners shall be installed with plates through the DensDeck Prime, flush with the surface.
- Where DensDeck Prime is installed over combustible wood decks or insulation, all joints should be staggered. The optional separator sheet should be installed prior to DensDeck Prime installation.
- Edge joints should be located on, and parallel to, deck ribs. End joints of adjacent lengths of DensDeck Prime should be staggered.
- For FM Class I-60, fastener density typically is increased by 50% at the roof corners, in conjunction with FM-approved covering.
- For FM Class I-90, fastener density typically is increased by 50% at the roof corners and roof perimeter, in conjunction with FM-approved covering.
- Adhered Systems: Insta-Foam Products, Inc.'s Insta-Stik Adhesive used with 1/4" DensDeck Prime achieved la FMRC Class I-180 according to test report 1Y7A5.AM in selected Class 1 insulated steel and concrete deck roof construction. Contact Insta-Foam Products, Inc. for details at 1-800-800-FOAM.
- DensDeck Prime shall be installed with ends and edges butted tightly.
- DensDeck Prime is manufactured to conform to ASTM C 1177.

Properties	1/4"	1/2"	5/8"
Thickness, nominal	1/4" + 1/16"	1/2" ± 1/32"	5/8" ± 1/32"
Width, standard	4' ± 1/8"	4' ± 1/8"	4' ± 1/8"
Length, standard	4' and 8' ± 1/4"	4' and 8' ± 1/4"	4' and 8' ± 1/4"
Weight, lbs./sq. ft., nominal	1.15	1.975	2.55
Surfacing	Glass mat non-asphaltic coating	Glass mat with non-asphaltic coating	Glass mat with non-asphaltic coating
Flexural Strength <sup>1</sup> , parallel, lbs. min.	40	80	100
Flute Spanability <sup>2</sup>	2-5/8"	5"	8"
Permeance <sup>3</sup> , perms	50	35	32
"R" Value <sup>4</sup>	.28	.56	.67
Linear Variation with Change in Temp., in/in °F	8.5x10 <sup>-6</sup>	8.5x10 <sup>-6</sup>	8.5x10 <sup>-6</sup>
Linear Variation with Change in Moisture, in/in %RH	6.25x10 <sup>-6</sup>	6.25x10 <sup>-6</sup>	6.25x10 <sup>-6</sup>
Water Absorption <sup>5</sup> , % max	10.0	10.0	10.0
Compression Strength, psi nominal	500 - 900	500 - 900	500 - 900
Surface Water Absorption <sup>5</sup> , grams, nominal	<2.0	<2.0	<2.0
Flame Spread, Smoke Developed (ASTM E 84)	0/0	0/0	0/0
Fire Classification	FM CLASS 1 (as overlayment) UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107	FM Class 1 (FM 4450) UL 1256, ULC S-126 UL Class A (UL 790) ULC S-107	FM Class 1 (FM 4450) UL 1256, ULC S-126 UL Classified "P" assemblies ULC Classified "R" assemblies ULC S-101 Class A (UL 790), ULC S-107
Mold Resistance per ASTM D 3273 <sup>6</sup>	Mold resistant	Mold resistant	Mold resistant
FM Approvals <sup>7</sup>	60 and 90 psf uplift/ FM Class 1-90 as an overlayment	FM 1-60, 1-90, 1-135	FM 1-60, 1-90, 1-180
Bending Radius	5'	8'	12'

1. Tested in accordance with ASTM C 473.

2. Tested in accordance with ASTM E 661 (400 lb. conc. load only for 1/2" and 5/8").

3. Tested in accordance with ASTM E-96 (dry cup method).

4. Tested in accordance with ASTM C 518 (heat flow meter).

5. ASTM C 1177 minimums.

6. When tested as manufactured in accordance with ASTM D 3273.

7. Higher wind uplift ratings have been achieved by numerous membrane manufacturers using DensDeck, DensDeck Prime or DensDeck DuraGuard roof boards in their FM-Approved construction designs.

### Sales Information and Order Placement:

USA - Midwest: 1.800.876.4746; South: 1.800.327.2344; Northeast: 1.800.947.4497; West: 1.800.824.7503

CANADA - 1.800.387.6823; Quebec: 1.800.361.0486