Technical Data Sheet

DenDeck® PRIME ROOF BOARD

High performance gypsum-fiber roof board

DESCRIPTION

DensDeck® Prime Roof Board has been enhanced to provide a broader compatibility and higher performance with roofing adhesives. Face mat enhancements allow adhesives to be applied more uniformly and consistently. In adhered, single ply membrane testing, enhanced DensDeck® Prime demonstrated an average of 24% better bond than the original products, when using solvent based adhesives. (Average based on 60 sq ft/gal coverage rates.)* Choose DensDeck® Prime Roof Boards for adhered and self-adhered "peel & stick" roofing systems, as well as hot mopped, cold mastic and torch-applied modified bitumen roofs. Enhanced DensDeck® Prime Roof Boards create a stronger and more economical installation by reducing the amounts of mastic or adhesive used and potentially eliminates the field primer. Consult with membrane manufacturer for actual priming requirements.

DensDeck® Prime Roof Boards are the first and only fiberglass mat gypsum roof boards with a 90-day weather exposure limited warranty when applied vertically on a parapet wall.** (Limited to ½ in and ⅝ in products only.)

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 overlayment for polyisocyanurate and polystyrene insulation. DensDeck® Prime Roof Board 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. ½ in and ⅝ in DensDeck® Prime Roof Board may also be used in vertical applications as a backer board or liner for the roof side of parapet walls.

DensDeck® Prime Roof Board may allow the bonding of cold mastic modified bitumen and torching directly to the surface. ***Consult with the system manufacturer for recommendations on this application.***

DensDeck® Prime Roof Board is the preferred substrate for vapor retarders.

RECOMMENDATIONS AND LIMITATIONS

DensDeck® Prime Roof Boards are manufactured to act with a properly designed roof system following good roofing practices. The actual use of DensDeck® Prime Roof Board as a roofing component in any system or assembly is the responsibility of the roofing system's design authority. Consult with the appropriate system manufacturer and/or design authority for system and assembly specifications and instructions on applying other products to DensDeck® Prime Roof Board. Georgia-Pacific does not warrant and is not responsible for any systems or assemblies utilizing DensDeck® Prime Roof Board or any component in such systems or assemblies other than DensDeck® Prime Roof Board.

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

Confirm any priming requirements with the membrane manufacturer. When applying solvent-based adhesives or primers, allow sufficient time for the solvent to flash off to avoid damage to roofing components.

DensDeck® Prime Roof Boards should not be subjected to abnormal or excessive loads or foot traffic, such as, but not limited to, use on plaza decks or under steel-wheeled equipment that may fracture or damage the panels. Provide suitable roofing system protection when required.

When using DensDeck® Prime Roof Boards for hot-mopped applications, Georgia-Pacific recommends maximum asphalt application temperatures for Type III asphalt of 425°F (218°C) to 450°F (232°C). Application temperatures above theserecommended temperatures may adversely affect roof system performance. For application temperatures in excess of 450°F (232°C) and for mopping of type IV asphalt, ribbon or spot mopping or the installation of a perforated base sheet are recommended methods of bonding asphalt in lieu of full mopping. Consult and follow the roofing system manufacturer's specifications for full mopping applications and temperature requirements.

PHYSICAL PROPERTIES

CHARACTERISTIC	ASTM	1/4 INCH (6.6 MM)	1/2 INCH (12.7 MM)	5/8 INCH (15.9 MM)
Width; ft	C1177	4	4	4
Length; ft	C1177	4 & 8	4 & 8	4 & 8
Weight; lb/sq ft	C1177	1.2	2.0	2.5
Flexural Strength (parallel); lbf	C473	≥ 40	≥80	≥100
Compressive Strength; psi	C473, annex X3	900	900	900
Bending Radius; in		4	6	8
Flute Spannability; in	E661	2⅝	5	8
Thermal Resistances	C518	R = .28	R = .56	R = .67
Permeance; Perms	E96	30	23	17
Water Absorption; % of weight	C1177	≥ 5	≥ 5	≥ 5
Surface Water Absorption; g	D3273	≥ 2.0	≥ 2.0	≥ 2.0
Linear variation with Temperature	D3273	Score of 10	Score of 10	Score of 10
Linear variation with Moisture	E84	Class A	Class A	Class A
Flame Spread/Smoke Developed	E84	0/0	0/0	0/0

* Testing was done in accordance with FM approvals 4470, Appendix C: Small Scale Tests, Membrane Delamination Tests for Roofing Membranes and Substrates Using Tensile Loading.
** For complete warranty details, visit www.DensDeck.com. (Limited to ½ in and ⅝ products only.)

PERFORMANCE ROOF SYSTEMS™ A SOPREMA GROUP COMPANY

www.performanceroofsystems.us
4800 Dr. Martin Luther King Jr. Blvd., Kansas City, MO 64130
TOLL FREE: 800.727.9872 TEL: 816.921.0221

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RECOMMENDATIONS AND LIMITATIONS (CONTINUED)

When using DensDeck® Prime Roof Board as a substrate for torch applications, ensure that the product is dry and that the proper torching technique is used. Limit the heat to the DensDeck® Prime Roof Board. Maintain a majority of the torch flame directly on the roll.

Conditions beyond the control of Georgia-Pacific, such as weather conditions, dew, leaks, application temperatures DensDeck® Roof Board is the preferred substrate for vapor retarders.

HANDLING AND USE–CAUTION

This product contains fiberglass facings which may cause skin irritation. Dust and fibers produced during the handling and installation of the product may cause skin, eye and respiratory tract irritation. Avoid breathing dust and minimize contact with skin and eyes. Wear long sleeve shirts, long pants and eye protection. Always maintain adequate ventilation. Use a dust mask or NIOSH/MSHA approved respirator as appropriate in dusty or poorly ventilated areas.

MOISTURE MANAGEMENT

DensDeck® Prime Roof Boards, like other components used in roofing systems, must be protected from exposure to moisture before, during and after installation.

Remove the plastic packaging from all DensDeck® Prime Roof Board immediately upon receipt of delivery. Failure to remove the plastic packaging may result in entrapment of condensation or moisture. DensDeck® Prime Roof Board stored outside must be stored level and off the ground and protected by a breathable waterproof covering. Provide means for air circulation around and under stored bundles of DensDeck® Prime Roof Board. DensDeck® Prime Roof Board must be covered the same day as installed.

Avoid application of DensDeck® Prime Roof Boards during rain, heavy fog and any other conditions that may deposit moisture on the surface, and avoid the overuse of non-vented, direct-fired heaters during winter months. When roofing systems are installed on new poured concrete or light weight concrete decks or when re-roofing over an existing concrete deck, a vapor barrier should be installed above the concrete to retard the migration of water from the concrete into the roof assembly. Always consult the roofing system manufacturer or design authority for specific instructions for applying other products to DensDeck® Prime Roof Boards.

Moisture vapor movement by convection must be eliminated, and the flow of water by gravity through imperfections in the roof system must be controlled. After a leak has occurred, no condensation on the upper surface of the system should be tolerated, and the water introduced by the leak must be dissipated to the building interior in a minimum amount of time.

Although DensDeck® Prime Roof Boards are engineered with fiberglass facings and high density gypsum cores, the presence of free moisture can have a detrimental effect on the performance of the product and the installation of roofing membranes. For example, hot asphalt applications can blister; torched modified bitumen may not properly bond; and adhesives for single ply membranes may not dry properly. Moisture accumulation may also significantly decrease wind uplift and vertical pull resistance in the system or assembly. DensDeck® Prime Roof Boards containing excessive free moisture content may need to be evaluated for structural stability to assure wind uplift performance.

FIRE RESISTANCE CLASSIFICATIONS

DensDeck® Prime Roof Boards are excellent fire barriers over combustible and noncombustible roof decks, including steel decks.

UL 790 Classification. DensDeck® Prime Roof Boards have been classified by Underwriters Laboratories LLC (UL) for use as a fire barrier over combustible and noncombustible decks in accordance with the ANSI/UL 790 test standard. The UL classification includes a comprehensive Class A, B or C rating. For additional information concerning the UL 790 classification, consult the UL Certification Directory.

UL 1256 Classification. DensDeck® Prime Roof Boards have also been classified by UL in roof deck constructions for internal (under deck) fire exposure in accordance with the ANSI/UL 1256 Steiner Tunnel test. For additional information concerning the UL 1256 classification, consult the UL Certification Directory.

FM Class 1 Approvals. DensDeck® Prime Roof Boards are included in numerous roofing assemblies with a Factory Mutual (FM) Class 1 fire rating. ¼ inch DensDeck Prime Roof Boards have passed testing under the FM Calorimeter Standard 4450 and have been approved by FM as such for insulated steel deck roofs when installed according to the conditions identified by FM. For more information concerning FM Approvals and FM Class 1 assemblies with DensDeck® Prime Roof Boards, consult FM or RoofNav.®

Type X. ⅝ inch DensDeck® Prime Fireguard® Roof Boards are manufactured to meet the "Type X" requirements of ASTM C1177 for increased fire resistance beyond regular gypsum board.

UL Fire Resistance Ratings. ⅝ inch DensDeck® Prime Fireguard Roof Boards are designated as **Type DD** by UL and included in assembly designs investigated by UL for hourly fire resistance ratings. ⅝ inch DensDeck® Prime Fireguard Roof Boards may also replace any unclassified ⅝ inch gypsum board in an assembly in the UL Fire Resistance Directory under the prefix "P."

Flame Spread and Smoke Developed. When tested in accordance with ASTM E84, DensDeck® Prime Roof Boards had Flame Spread 0, Smoke Developed 0.

WIND UPLIFT

DensDeck® Prime Roof Boards are included in numerous assemblies evaluated by FM or other independent laboratories for wind uplift performance. For information concerning such assemblies, please visit www.roofnav.com.

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