

# DEXcell® BRAND CEMENT ROOF BOARD

## MANUFACTURER

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## DESCRIPTION

DEXcell® BRAND Cement Roof Board is a lightweight moisture and mold resistant cement board designed for use as a coverboard and/or thermal barrier in all commercial roofing applications.

DEXcell Cement Roof Board is a fire barrier and thermal barrier manufactured of Portland cement, lightweight aggregate and glass mesh that provides an exceptionally hard, durable surface that is able to withstand prolonged exposure to moisture. It is produced in 7/16" thickness and 4' wide in 4' and 8' lengths.

## BASIC USES

DEXcell Cement Roof Boards are ideally suited for a wide variety of roofing systems including but not limited to fully adhered single ply membrane, mechanically attached roof systems, modified bitumen, built-up roofing, fluid applied, metal and spray foam. Also used on the roof side of parapet walls.

## ADVANTAGES

- Ideally suited for all roof systems.
- Fire Barrier meets FM Class 1 and UL Class A fire ratings for roofing systems up to unlimited slope per UL 790.
- Lightweight cementitious core.
- Superior moisture resistance.
- Exceptional freeze/thaw resistance.

- Excellent bond/pull-through/uplift values.
- Impact resistant, extremely durable and dimensionally stable.
- High compressive strength.
- Scores and snaps easily.
- Moisture resistant and resists mold growth on the board per ASTM D 3273.
- Manufactured to meet ASTM C 1325.
- Recommended for green roofs and photovoltaic systems.

## MOLD AND MILDEW RESISTANCE

DEXcell Cement Roof Boards were designed to provide extra protection against mold and mildew. When tested by an independent laboratory per ASTM D 3273 ("Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber"), DEXcell Cement Roof Board achieved a score of 10, the best possible score for this test.

The use of DEXcell Cement Roof Boards in actual installations may not achieve the same results as were achieved in controlled, laboratory conditions. No material can be considered "mold proof," nor is it certain that any material will resist mold indefinitely. When used in conjunction with good design, handling and construction practices, DEXcell Cement Roof Boards can provide increased mold resistance versus standard roofing products. As with any building material, avoiding water exposure during handling, storage and installation and after installation is complete, is the best way to avoid the formation of mold or mildew.

## LIMITATIONS

- DEXcell Cement Roof Boards are engineered to perform within a properly designed roof system. The use of DEXcell Cement Roof Boards as a roofing component is the responsibility of the design professional.
- Consult roofing manufacturers for specific instructions on the application of their products to DEXcell Cement Roof Boards.
- Weather conditions, dew, application temperature, installation techniques and moisture drive which can have adverse effects on the performance of the roof system and are beyond the control of National Gypsum Company.
- Keep DEXcell Cement Roof Board panels dry at all times. DEXcell Cement Roof Board should not be installed during rain, heavy fog and any other conditions that can deposit moisture on the surface of the board.
- Apply only as much DEXcell Cement Roof Board that can be covered by the final roof covering in the same day. Always avoid exposure to moisture from any source.
- Re-roof or re-cover applications must be thoroughly dry prior to installation of DEXcell Cement Roof Board.
- DEXcell Cement Roof Boards should never be stored on the ground and always stocked flat. If the product must be stored outside, avoid exposure to moisture by utilizing a breathable waterproof covering.

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_ Date \_\_\_\_\_

Submittal Approvals: (Stamps or Signatures)

## LIMITATIONS (Continued)

- Moisture vapor drive must be eliminated, and the movement of water by gravity through deficiencies in the roofing assembly must be controlled. Anytime a leak occurs, no moisture on the top side should be accepted, and any water introduced by the leak must be dissipated as quickly as possible.
- Although DEXcell Cement Roof Boards are engineered to have superior moisture resistance, the presence of free moisture can have an adverse effect on product performance and may compromise the installation of additional components. 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.

## TECHNICAL DATA

### PHYSICAL PROPERTIES

Thickness, nominal	7/16" (11.1 mm)
Width, standard	4' (1219 mm)
Length, standard	4' (1219 mm) 8' (2438 mm)
Weight, nominal, lbs./sq.ft. (kg/m <sup>2</sup> )	2.1 (10.3)
Flexural Strength <sup>1</sup> , psi	>1000
Flute Spanability <sup>2</sup>	12" (304 mm)
Permeance <sup>3</sup> , perms (ng/Pa·S·m <sup>2</sup> )	>5
R Value <sup>4</sup> , ft <sup>2</sup> ·°F·hr/BTU (m <sup>2</sup> ·K/W)	.28
Linear Variation with Change in Moisture <sup>5</sup>	≤0.07%
Water Absorption <sup>6</sup> , % max	<10
Compressive Strength, psi nominal	1250
Flame Spread, Smoke Developed (ASTM E 84)	0/0
Bending Radius	5' (1524 mm)

1. Tested in accordance with ASTM C 947

2. Tested in accordance with ASTM E 661

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

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

5. Tested in accordance with ASTM D 1037

6. Tested in accordance with ASTM C 473

### FIRE RESISTANCE RATINGS

- UL 790 — DEXcell Cement Roof Board meets UL Class A fire ratings for roofing systems up to unlimited slope per UL 790 (CAN/ULC-S107), see the *UL Certifications Directory* for more information.
- UL 1256 — DEXcell Cement Roof Board is classified in roof deck constructions in accordance with ANSI/UL 1256, see the *UL Certifications Directory* for more information.
- When tested in accordance with ANSI/UL 723 (ASTM E 84, CAN/ULC-S102), DEXcell Cement Roof Board had a Flame Spread 0 and Smoke Developed 0.

### FM APPROVED

- Complies with requirements of FM 4450 and FM 4470
  - Meets FM Class 1
- Fire resistance ratings represent the result of tests on assemblies made up of specific materials in specific configurations. When selecting construction designs to meet certain fire resistance requirements, caution must be used to ensure that each component of the assembly is the one specified in the test. Further, precaution should be taken that assembly procedures are in accordance with those

of the tested assembly. (For copies of specific tests, call 1-800-NATIONAL®. For fire safety information, visit [nationalgypsum.com](http://nationalgypsum.com)).

## INSTALLATION

### WIND UPLIFT

DEXcell Cement Roof Boards are included in numerous assemblies evaluated by FM or other independent laboratories for wind uplift performance. For information concerning such assemblies visit [roofnav.com](http://roofnav.com).

Refer to roof system manufacturer's written instructions, local code requirements and Factory Mutual Global (FMG) and/or Underwriters Laboratories (UL) requirements for proper installation techniques.

- Use fasteners specified in accordance with system requirements. Install approved fasteners with plates into the DEXcell Cement Roof Board, flush with the surface. Fasteners should be installed in strict compliance with the roof system manufacturer's installation recommendations and FMG Loss Prevention Data Sheet 1-29. Proper fastener spacing is essential to achieve wind-uplift performance.
- Locate edge joints on, and parallel to, deck ribs. Stagger end joints of adjacent lengths of DEXcell Cement Roof Board. Butt board edges and ends loosely in typical installations.
- See Physical Properties chart for maximum flute span when panels are applied directly over metal decking.
- For vertical parapet applications, maximum framing spacing is 16" o.c.

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