

ROOF BOARD Guide Specification

National Gypsum Company

(Specifier Note: The purpose of this guide specification language is to assist the specifier in correctly specifying roof board products and their installation. The specifier needs to edit these guide specifications to fit the needs of each specific project. Contact National Gypsum Company to assist in appropriate product selections.)

Specifier Notes included in (italicized red text) are included to provide assistance in selecting appropriate text for inclusion in a Specification. [Bold text] indicates a selection is required. Text in the brackets may not be the only options available, but are recommended or common selections.)

It is intended that the information provided in this guide specification be incorporated into a project specific roofing specification section.

SECTION 07 50 00 MEMBRANE ROOFING

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Glass Mat Roof Board for fully adhered roof applications (DEXcell™ BRAND FA Glass Mat Roof Board)
- B. Glass Mat Roof Board for mechanically attached roof applications(DEXcell™ BRAND Glass Mat Roof Board)
- C. Cement Roof Board (DEXcell™ BRAND Cement Roof Board)

1.2 REFERENCE STANDARDS

(Specifier Note: EDIT list of reference standards based on standards that remain in the text body once section has been edited for specific project.)

- A. ASTM International
 - 1. ASTM C 473 - Standard Test Methods for Physical Testing of Gypsum Panel Products
 - 2. ASTM C 947 - Standard Test Method of Flexural Properties of Thin-Section Glass-Fiber Reinforced Concrete
 - 3. ASTM C 1177 - Standard Specification for Glass Mat Gypsum Substrate for Use as Sheathing
 - 4. ASTM C 1325 - Standard Specification for Non-Asbestos Fiber-Mat Reinforced Cementitious Backer Units
 - 5. ASTM D 3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
 - 6. ASTM E 84 (UL 723) CAN/ULC S102 - Standard Test Method for Surface Burning Characteristics of Building Materials
 - 7. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials
 - 8. ASTM E 661 - Standard Test Method for Performance of Wood and Wood-based Floor and Roof Sheathing Under Concentrated Static and Impact Loads
- B. UL
 - 1. UL 790 - Standard Test Methods for fire Tests of Roof Coverings
 - 2. ANSI/UL 1256 - Fire Test of Roof Deck Constructions

PART 2 - PRODUCTS

2.1 MANUFACTURER

(Specifier Note: CONFIRM product requirements and characteristics prior to listing products of other manufacturers. DEXcell roof boards are included in numerous assemblies evaluated by FM or other independent laboratories for wind uplift performance. Refer to roofnav.com for additional information.)

- A. Products of National Gypsum Company

2.2 GLASS MAT ROOF BOARD

(Specifier Note: DEXcell FA Glass Mat Roof Board is designed for fully adhered roof membranes and DEXcell Glass Mat Roof Board is designed for mechanically attached.)

- A. Basis of Design: DEXcell™ BRAND FA Glass Mat Roof Board

- 1. Physical Characteristics

(Specifier Note: 5/8 inch panels meet requirements of Type X. The 5/8 inch panels may be used in P series designs as a thermal barrier.)

- a. Core: Enhanced Moisture and Mold Resistant Gypsum Core resistance to mold growth on the board per ASTM D 3273
- b. Surfacing: Heavy Duty Coated Fiberglass Facer
- c. Overall thickness: **[1/4 inch] [1/2 inch] [5/8 inch]**
- d. Board conforms with requirement of ASTM C 1177
- e. Minimum Flexural Strength, Parallel: **[40 lbf] [80 lbf] [100 lbf]** per ASTM C 473
- f. Flute Spanability: **[2-5/8 inches] [5 inches] [8 inch inches]** when tested in accordance with ASTM E 661
- g. Compressive Strength, Nominal: 900 psi when tested in accordance with ASTM C 473.
- h. Permeance: **[25] [24] [23]** perms when tested in accordance with ASTM E 96, Dry cup method
- i. **[Meets FM Class 1 and UL Class A fire rating for roofing systems up to unlimited slope per UL 790]**
- j. **[Classified in roof deck construction in accordance with ANSI/UL 1256.]**
- k. Flame Spread/Smoke Developed: 0/0 in accordance with ASTM E 84, UL 723, CAN/ULC-S102

- B. Basis of Design: DEXcell™ BRAND Glass Mat Roof Board

- 1. Physical Characteristics

(Specifier Note: 5/8 inch panels meet requirements of Type X. The 5/8 inch panels may be used in P series designs as a thermal barrier.)

- a. Core: Enhanced Moisture and Mold Resistant Gypsum Core resistance to mold growth on the board per ASTM D 3273
- b. Surfacing: Coated Fiberglass Facer
- c. Overall thickness: **[1/4 inch] [1/2 inch] [5/8 inch]**
- d. Board conforms with requirement of ASTM C 1177
- e. Minimum Flexural Strength, Parallel: **[40 lbf] [80 lbf] [100 lbf]** per ASTM C 473
- f. Flute Spanability: **[2-5/8 inches] [5 inches] [8 inch inches]** when tested in accordance with ASTM E 661
- g. Compressive Strength, Nominal: 900 psi when tested in accordance with ASTM C 473.

- h. Permeance: [25] [24] [23] perms when tested in accordance with ASTM E 96, Dry cup method
- i. **[Meets FM Class 1 and UL Class A fire rating for roofing systems up to unlimited slope per UL 790]**
- j. **[Classified in roof deck construction in accordance with ANSI/UL 1256.]**
- k. Flame Spread/Smoke Developed: 0/0 in accordance with ASTM E 84, UL 7232, CAN/ULC-S102

2.3 CEMENT ROOF BOARD

A. Basis of Design: DEXcell™ BRAND Cement Roof Board

1. Physical Characteristics

- a. Core: Moisture and mold cementitious core resistance to mold growth on the board per ASTM D 3273.
- b. Surfacing: Fiberglass mesh with reinforced edges
- c. Overall thickness: 7/16 inch
- d. Board conforms with requirement of ASTM C 1325
- e. Minimum Flexural Strength: 1000 per ASTM C 947
- f. Flute Spanability: 12 inches when tested in accordance with ASTM E 661
- g. Compressive Strength, Nominal: 1250 psi
- h. Permeance: Minimum 10 perms when tested in accordance with ASTM E 96, Dry cup method
- i. **[Meets FM Class 1 and UL Class A fire rating for roofing systems up to unlimited slope per UL 790]**
- j. **[Classified in roof deck construction in accordance with ANSI/UL 1256.]**
- k. Flame Spread/Smoke Developed: 0/0 in accordance with ASTM E 84

2.4 ACCESSORY PRODUCTS

A. Fasteners: In accordance with roofing system assembly

PART 3 - EXECUTION

3.1 ROOF BOARD INSTALLATION

- A. Install roof board in accordance with roof system manufacturer's installation instructions, and Factory Mutual Global (FMG) Loss Prevention Data Sheet 1-29.
- B. Locate board edge joints on, and parallel to metal roof deck ribs. Stagger end joints of adjacent board lengths. Butt board edges and ends loosely unless otherwise indicated for assembly.

DISCLAIMER:

National Gypsum Company Guide Specifications have been written as an aid to the professionally qualified specifier and design professional. The use of this information requires the professional judgment and expertise of the qualified specifier and design professional to adapt the information to the specific needs of the building Owner and the project; to coordinate with the design professional's construction document process, and to meet the applicable building codes, regulations and laws. National Gypsum disclaims any warranty, expressed or implied, including the warranty of fitness for a particular purpose of the product for a project.