

# Fire-Shield®

## Gypsum Board

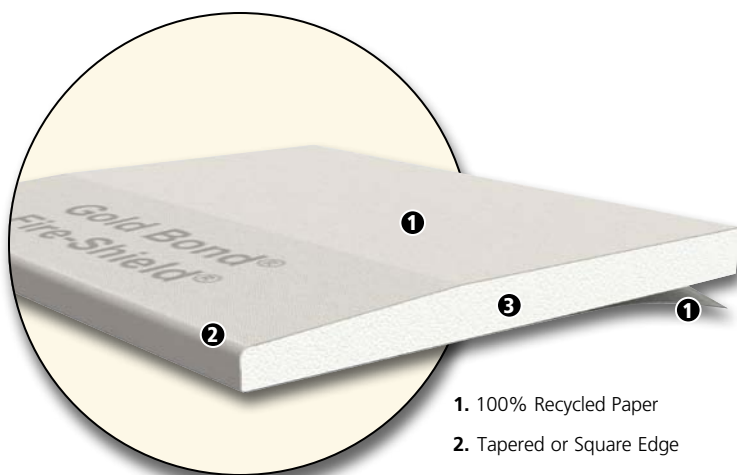
**Gold Bond® BRAND Fire-Shield® Gypsum Board** consists of a fire-resistant gypsum core with a heavy, natural finish and 100-percent recycled paper on the face and back sides. The face paper folds around the long edges to reinforce and protect the core, and the ends are cut square and finished smooth.

Use it for interior, fire-rated wall and ceiling applications. A specially formulated Type C core is also available where required.

For speed of installation, GridMarX® guide marks are printed on the paper surface.

**Sizes:** 1/2 in. (12.7 mm) thick Type C Boards are available in 4 ft. (1,219 mm) widths and in standard lengths of 6 ft. (1,829 mm) to 16 ft. (4,877 mm). 5/8 in. (15.9 mm) thick Type X and Type C Boards are available in 4 ft. (1,219 mm) and 54 in. (1,372 mm) widths and standard lengths of 6 ft. (1,829 mm) to 16 ft. (4,877 mm).

**Finishing:** Long edges of the boards are tapered or square. Tapered edges allow joints to be reinforced with ProForm® BRAND Joint Tape and concealed with ProForm® BRAND Ready Mix Joint Compounds or ProForm® BRAND Quick Set™ Setting Compounds.



1. 100% Recycled Paper
2. Tapered or Square Edge
3. Gypsum Core

**Gold  
Bond**  
BRAND  
Gypsum Board

**National**  
Gypsum®

## Basic Uses

### APPLICATIONS

Use 1/2 in. (12.7 mm) Type C and 5/8 in. (15.9 mm) Fire-Shield® Gypsum Boards on walls and ceilings in fire-rated construction where the framing members are spaced up to 24 in. (610 mm) o.c.

### ADVANTAGES

- Approved component in specific UL-rated designs.
- Lightweight and cost-efficient material that is compatible with a wide range of decorative finishes.
- Cuts easily for quick installation, permitting painting or other decoration and the installation of metal or wood trim almost immediately.
- Fire-resistant material with a gypsum core that will not support combustion or transmit temperatures greatly in excess of 212°F (100°C) until completely calcined, a slow process.
- Dimensionally stable under changes in temperature and relative humidity and resists warping, rippling, buckling and sagging.
- Features the GridMarX® preprinted fastening guide on the board to allow for faster and more accurate installation.
- Achieves GREENGUARD and GREENGUARD Gold Certification. GREENGUARD Certified products are certified to GREENGUARD standards for low chemical emissions into indoor air during product usage. For more information, visit: [ul.com/gg](http://ul.com/gg).
- Qualifies as a low-VOC emitting material by meeting California Specification 01350. For more information, visit: <http://www.calrecycle.ca.gov/greenbuilding/specs/section01350/>.

## Installation Recommendations

### GENERAL

- Install gypsum board in accordance with methods described in ASTM C840 and GA-216.
- Examine and inspect framing materials to which gypsum board is to be applied. Remedy all defects prior to installation of the gypsum board.
- GridMarX provides quick identification and uniform nail/screw patterns. Use GridMarX to make accurate cuts without drawing lines. GridMarX guide marks run the length of the board at five points in 4 in. (102 mm) increments. Marks run along the edge in both tapers and at 16 in. (406 mm), 24 in. (610 mm) and 32 in. (813 mm) in the field of the board. The marks cover easily with no bleed-through using standard paint products.
- Apply gypsum board first to ceilings at right angles to framing members, then to walls. Use boards of maximum practical length so that the minimum number of end joints occur. Bring board edges into contact with each other but do not force into place.
- Install batt or blanket ceiling insulation BEFORE the gypsum board on ceilings when installing a vapor retarder behind the gypsum board. Install the insulation IMMEDIATELY after the gypsum board when using loose fill insulation. Avoid installation practices that might allow condensation to form behind boards.
- Cut gypsum board to allow for a minimum 1/4 in. (6.4 mm) gap between gypsum board and floor to prevent potential wicking.
- Locate gypsum board joints at openings so that no joint will occur within 12 in. (305 mm) of the edges of the opening unless installing control joints at these locations. Stagger vertical end joints. Joints on opposite sides of a partition should not occur on the same stud.
- Hold gypsum board in firm contact with the framing member while driving fasteners. Fastening should proceed from center portion of the board toward the edges and ends. Set fasteners with heads slightly below the surface of the board. Take care to avoid breaking the face paper of the gypsum board. Remove improperly driven nails or screws.

## TECHNICAL DATA

PHYSICAL PROPERTIES			
	1/2" Fire-Shield C Gypsum Board	5/8" Fire-Shield Gypsum Board	5/8" Fire-Shield C Gypsum Board
<b>Thickness<sup>1</sup>, Nominal</b>	1/2" (12.7 mm)	5/8" (15.9 mm)	5/8" (15.9 mm)
<b>Width<sup>1</sup>, Nominal</b>	4' (1,219 mm)	4' (1,219 mm), 54" (1,372 mm)	4' (1,219 mm), 54" (1,372 mm)
<b>Length<sup>1,4</sup>, Standard</b>	6' – 16' (1,829 – 4,877 mm)	6' – 16' (1,829 – 4,877 mm)	6' – 16' (1,829 – 4,877 mm)
<b>Weight, Nominal</b>	1.9 lbs. / sq. ft. (9.28 k/m <sup>2</sup> )	2.2 lbs. / sq. ft. (10.74 k/m <sup>2</sup> )	2.3 lbs. / sq. ft. (11.23 k/m <sup>2</sup> )
<b>Edges<sup>1</sup></b>	Tapered or Square	Tapered or Square	Tapered or Square
<b>Flexural Strength<sup>1</sup>, Perpendicular</b>	≥ 107 lbf. (476 N)	≥ 147 lbf. (654 N)	≥ 147 lbf. (654 N)
<b>Flexural Strength<sup>1</sup>, Parallel</b>	≥ 36 lbf. (160 N)	≥ 46 lbf. (205 N)	≥ 46 lbf. (205 N)
<b>Humidified Deflection<sup>1</sup></b>	≤ 10/8" (31.8 mm)	≤ 5/8" (15.9 mm)	≤ 5/8" (15.9 mm)
<b>Nail Pull Resistance<sup>1</sup></b>	≥ 77 lbf. (343 N)	≥ 87 lbf. (387 N)	≥ 87 lbf. (387 N)
<b>Hardness<sup>1</sup> – Core, Edges and Ends</b>	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)
<b>Bending Radius</b>	10' (3,048 mm)	15' (4,572 mm)	15' (4,572 mm)
<b>Thermal Resistance<sup>5</sup></b>	R = .45	R = .56	R = .56
<b>Product Standard Compliance</b>	ASTM C1396	ASTM C1396	ASTM C1396
<b>Fire-Resistance Characteristics</b>			
<b>Core Type</b>	Type C	Type X	Type C
<b>UL Type Designation</b>	FSW-C	FSW	FSW-C
<b>Combustibility<sup>2</sup></b>	Non-combustible Core	Non-combustible Core	Non-combustible Core
<b>Surface Burning Characteristics<sup>3</sup></b>	Class A	Class A	Class A
<b>Flame Spread<sup>3</sup></b>	15	15	15
<b>Smoke Development<sup>3</sup></b>	0	0	0
<b>Applicable Standards and References</b>			
ASTM C473 Standard Test Methods for Physical Testing of Gypsum Panel Products			
ASTM C518 Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus			
ASTM C840 Standard Specification for Application and Finishing of Gypsum Board			
ASTM C1396 Standard Specification for Gypsum Board			
ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials			
ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C			
Gypsum Association, GA-214, <i>Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels</i>			
Gypsum Association, GA-216, <i>Application and Finishing of Gypsum Panel Products</i>			
Gypsum Association, GA-238, <i>Guidelines for Prevention of Mold Growth on Gypsum Board</i>			
National Gypsum Company, <i>NGC Construction Guide</i>			

1. Specified values per ASTM C1396, tested in accordance with ASTM C473.

2. Tested in accordance with ASTM E136.

3. Tested in accordance with ASTM E84.

4. Please consult your local sales representative for all non-standard lengths and widths. Minimum order requirements may apply.

5. Tested in accordance with ASTM C518.

- Provide minimum 1/4 in. (6.4 mm) clearance between boards and adjacent concrete or masonry to minimize wicking of moisture.
- Maintain a room temperature of not less than 40°F (4°C) during application of gypsum board.
- Maintain a room temperature of not less than 50°F (10°C) when using adhesive to attach the gypsum board and during joint treatment, texturing and decoration, beginning 48 hours prior to application and continuously thereafter until completely dry. Maintain adequate ventilation in the working area during installation and curing period.

## FINISHING

Refer to GA-214, *Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels*, to determine the level of finishing needed to assure a surface properly prepared to accept the desired decoration.

## DECORATION

Ensure gypsum board surfaces, including finished joints, are clean, dust-free and gloss-free to achieve best painting results. Apply a coat of quality drywall primer to equalize the porosities between surface paper and joint compound, improving fastener and joint concealment.

Selection of a paint to provide desired finish characteristics is the responsibility of the architect or contractor.

## CRITICAL LIGHTING AREAS

Wall and ceiling areas abutting window mullions or skylights, long hallways, and atriums with large surface areas washed with artificial or natural lighting are a few examples of critical lighting areas. Strong side lighting from windows or surface-mounted light fixtures may reveal minor surface imperfections. Light striking the surface obliquely, at a slight angle, exaggerates surface irregularities. If you cannot avoid critical lighting, minimize the effects by skim coating the gypsum board surfaces, by decorating the surface with medium to heavy textures, or by the use of draperies and blinds, which soften shadows. In general, paints with sheen levels other than flat, enamel paints and dark-toned paint finishes highlight surface defects; consider the use of textures to hide these minor visual imperfections.

## Limitations

- Avoid exposure to excessive or continuous moisture and extreme temperatures. Do not expose gypsum board to temperatures exceeding 125°F (52°C) for extended periods of time.
- Properly ventilate or condition attic spaces to remove moisture buildup above gypsum board ceilings. If required, install a vapor retarder in exterior ceilings behind gypsum board.
- Avoid installing gypsum board directly over insulation blankets with facer flanges placed continuously across the face of the framing members; recess insulation blankets and attach flanges to the sides of framing.
- Isolate gypsum board from contact with building structure in locations where structural movement may impose direct loads on gypsum board assemblies.
- Provide control joints spaced not more than 30 ft. (9,144 mm) where employing long continuous runs of walls, partitions or ceilings without perimeter relief.
- Avoid gypsum board joints within 12 in. (305 mm) of the corners of window or door frames unless installing control joints at these locations.
- Space supporting framing for single-layer application of 1/2 in. (12.7 mm) and 5/8 in. (15.9 mm) gypsum board a maximum of 24 in. (610 mm) o.c.
- To prevent objectionable sag in gypsum board ceilings, the weight of overlaid, unsupported insulation should not exceed the following recommendations:

CEILING-SUPPORTED INSULATION			
Type	Type X	Type C	Type C
<b>Thickness, Nominal</b>	5/8" (15.9 mm)	1/2" (12.7 mm)	5/8" (15.9 mm)
<b>Framing Spacing</b>	24" o.c. (610 mm)	24" o.c. (610 mm)	24" o.c. (610 mm)
<b>Weight of Ceiling-Supported Insulation</b>	2.2 psf (10.7 kg/m <sup>2</sup> )	1.3 psf (6.3 kg/m <sup>2</sup> )	2.2 psf (10.7 kg/m <sup>2</sup> )