

Gypsum Board

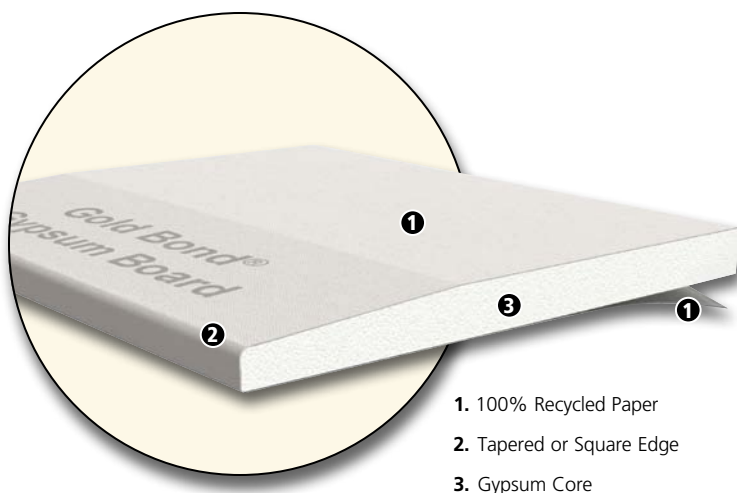
Gold Bond® BRAND Gypsum Board consists of a fire-resistant gypsum core encased in a heavy, natural finish with 100-percent recycled paper on the face and back sides. The face paper is folded around the long edges to reinforce and protect the core, and the ends are cut square and finished smooth.

Use it for interior, non-fire-rated wall and ceiling applications.

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

Sizes: 1/4 in. (6.4 mm) and 3/8 in. (9.5 mm) thick Gypsum Boards are available in 4 ft. (1,219 mm) widths and standard lengths of 8 ft. (2,438 mm) to 12 ft. (3,658 mm). 1/2 in. (12.7 mm) thick Gypsum Boards are available in 4 ft. (1,219 mm) and 54 in. (1,372 mm) widths and standard lengths of 8 ft. (2,438 mm) to 16 ft. (4,877 mm).

Finishing: Long edges 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.



**Gold
Bond®**
BRAND
Gypsum Board

National
Gypsum®

Basic Uses

APPLICATIONS

- **1/2 in. (12.7 mm)** – For use on interior walls and ceilings in non-fire-rated applications.
- **3/8 in. (9.5 mm)** – Lightweight for interior use in wall systems and for repair and remodel applications.
- **1/4 in. (6.4 mm)** – Lightweight, low-cost utility gypsum board for interior use over existing wall and ceiling surfaces. Also applicable for forming curved surfaces with short radii.

ADVANTAGES

- 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.
- 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.

TECHNICAL DATA

PHYSICAL PROPERTIES			
	1/4" Gold Bond Gypsum Board	3/8" Gold Bond Gypsum Board	1/2" Gold Bond Gypsum Board
Thickness¹, Nominal	1/4" (6.4 mm)	3/8" (9.5 mm)	1/2" (12.7 mm)
Width¹, Nominal	4' (1,219 mm)	4' (1,219 mm)	4' (1,219 mm), 54" (1,372 mm)
Length^{1,4}, Standard	8' – 12' (2,438 – 3,658 mm)	8' – 12' (2,438 – 3,658 mm)	8' – 16' (2,438 – 4,877 mm)
Weight, Nominal	1.1 lbs. / sq. ft. (5.37 k/m ²)	1.3 lbs. / sq. ft. (6.35 k/m ²)	1.6 lbs. / sq. ft. (7.81 k/m ²)
Edges¹	Tapered or Square	Tapered or Square	Tapered or Square
Flexural Strength¹, Perpendicular	≥ 46 lbf. (205 N)	≥ 77 lbf. (343 N)	≥ 107 lbf. (476 N)
Flexural Strength¹, Parallel	≥ 16 lbf. (71 N)	≥ 26 lbf. (116 N)	≥ 36 lbf. (160 N)
Humidified Deflection¹	N/A	≤ 15/8" (47.6 mm)	≤ 10/8" (31.8 mm)
Nail Pull Resistance¹	≥ 36 lbf. (160 N)	≥ 56 lbf. (249 N)	≥ 77 lbf. (343 N)
Hardness¹ – Core, Edges and Ends	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)	≥ 11 lbf. (49 N)
Bending Radius	5' (1,524 mm)	7'6" (2,286 mm)	10' (3,048 mm)
Thermal Resistance⁵	N/A	R = .33	R = .45
Product Standard Compliance	ASTM C1396	ASTM C1396	ASTM C1396
Fire-Resistance Characteristics			
Core Type	Regular	Regular	Regular
UL Type Designation	N/A	N/A	N/A
Combustibility²	Non-combustible Core	Non-combustible Core	Non-combustible Core
Surface Burning Characteristics³	Class A	Class A	Class A
Flame Spread³	15	15	15
Smoke Development³	0	0	0
Applicable Standards and References			
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.

Gold Bond® BRAND Gypsum Board

- 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.
- 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.
- Double nailing is an alternate method of attachment devised to minimize nail pops. This system requires doubling up on the field nails. The total quantity of nails used does not double, however, since maximum nail spacing is increased to 12 in. (305 mm) o.c. and conventional nailing is used on the perimeter. Application is accomplished by first single nailing the field of the board, starting at the center and working toward ends and edges. Another nail is then driven in close proximity (2 in. [50.8 mm] to 2-1/2 in. [63.6 mm]) to each of the first nails. The first series of nails are then struck again to ensure the board is drawn tightly to the framing member.
- When using adhesive to attach gypsum board, apply drywall adhesive to the face of studs or joists in continuous beads. Reference ASTM C840 Section 10.

CURVED SURFACES

To apply gypsum board over a curved surface, place a stop at one end of the board and then gently and gradually push on the other end, forcing the center against the framing until the curve is complete. Shorter radii than shown in the accompanying table may be obtained by moistening the face and back papers of the board with water and allowing the water to soak into the core. When the board is dry, it will regain its original hardness.

Apply gypsum board to curved surfaces in accordance with the following:

GYPSUM BOARD BENDING RADII

Gypsum Panel	Bending Lengthwise	Bending Widthwise
1/4" (6.4 mm)	5'0" (1,524 mm)	15'0" (4,572 mm)
3/8" (9.5 mm)	7'6" (2,286 mm)	25'0" (7,620 mm)
1/2" (12.7 mm)	10'0" (3,048 mm)	—

To achieve tighter bending radii, use Gold Bond® BRAND 1/4 in. High Flex® Gypsum Board.

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 a 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, a vapor retarder may be installed 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.
- Apply 1/4 in. (6.4 mm) gypsum board only to existing surfaces and do not apply directly to framing members, except when used with other thicknesses in double-layer systems tested for specific purposes. Existing walls and ceilings should be sound, flat, level and without void spaces. Apply 1/4 in. (6.4 mm) thick gypsum board with a combination of nails or screws and adhesive that will bond to the substrate surface covering. Framing spacing should not exceed 24 in. (610 mm) o.c. Apply adhesive to the substrate between framing members to bond the gypsum board.
- All ends and edges of gypsum board should occur over framing members or other solid backing except where treated joints occur at right angles to framing or furring members.
- Apply 1/2 in. (12.7 mm) gypsum board ceilings to be decorated with water-based spray texture perpendicular to the framing, spaced a maximum of 16 in. (406 mm) o.c.
- Space supporting framing for single-layer application of 1/2 in. (12.7 mm) gypsum board a maximum of 24 in. (610 mm) o.c. Space framing for single-layer application of 3/8 in. (9.5 mm) gypsum board a maximum of 16 in. (406 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				
	Regular	Regular	Regular	High Strength Ceiling Board
Thickness, Nominal	3/8" (9.5 mm)	1/2" (12.7 mm)	1/2" (12.7 mm)	1/2" (12.7 mm)
Framing Spacing	16" (406 mm) o.c.	16" (406 mm) o.c.	24" (610 mm) o.c.	24" (610 mm) o.c.
Weight of Ceiling – Supported Insulation	None Allowed	2.2 psf (10.7 kg/m ²)	1.6 psf (7.8 kg/m ²)	2.2 psf (10.7 kg/m ²)

For More Information

ARCHITECTURAL SPECIFICATIONS

National Gypsum Company's CSI MasterFormat® 3-part guide specifications are downloadable as editable Microsoft® Word documents at: nationalgypsum.com.

LATEST INFORMATION AND UPDATES

For the latest technical information and updates, call NGC Construction Services: **1-800-NATIONAL (628-4662)** or visit our website: nationalgypsum.com.