

Gold Bond® High Flex® Gypsum Board

09 29 00 / NGC

Technical Information
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DESCRIPTION

Gold Bond® High Flex® Gypsum Board panels consist of a fire-resistant gypsum core encased in heavy, natural- finish paper on the face side and strong liner paper on the back side. The face paper is folded around the long edges to reinforce and protect the core, and the ends are square-cut and finished smooth. Long edges of panels are slightly tapered allowing joints to be reinforced and concealed with joint tape and compound.

High Flex Gypsum Board is specifically designed for radius construction such as curved walls, archways and stairways. It can be used for both concave and convex surfaces. High Flex Gypsum Board is typically applied in double layers..

GridMarX® are printed on the face paper surface to help installers instantly identify stud locations and make accurate cuts without having to pencil in or snap chalk lines.

Finishing: Slightly tapered edges allow joints to be reinforced with joint tape, ready mix compounds or setting compounds.

BASIC USES

Applications

Use High Flex Gypsum Board for curved surfaces in non-rated assemblies, such as curved walls, arches and vaulted ceilings. Use it for both concave and convex surfaces. Apply it in double layers.

Advantages

- Lightweight, cost-efficient flexible material that conforms to curved profiles and 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 UL GREENGUARD Gold Certification for low chemical emissions into indoor air during product usage. For more information, visit: ul.com/gg.

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" (102 mm) increments. Marks run along the edge in both tapers and at 16" (406 mm), 24" (610 mm) and 32" (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" (6.4 mm) gap between gypsum board and floor to prevent potential wicking of moisture.
- Locate gypsum board joints at openings so that no joint will occur within 12" (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.
- Provide minimum 1/4" (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.

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Job Name _____

Contractor _____ Date _____

Submittal Approvals: (Stamps or Signatures)

**Gold
Bond®**
Gypsum Board

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TECHNICAL DATA

Physical Properties		High Flex
Thickness ¹ , Nominal		1/4" (6.4 mm)
Width ¹ , Nominal		4' (1,219 mm)
Length ^{1,4} , Standard		8' (2,438 mm)
Weight, Nominal		0.95 lbs./sq. ft. (4.64 k/m ²)
Edges ¹		Slightly Tapered
Flexural Strength ¹ , Perpendicular		≥ 46 lbf. (205 N)
Flexural Strength ¹ , Parallel		≥ 16 lbf. (71 N)
Humidified Deflection ¹		N/A
Nail Pull Resistance ¹		≥ 36 lbf. (160 N)
Hardness ¹ – Core, Edges and Ends		≥ 11 lbf. (49 N)
Bending Radius		Refer to chart on page 3.
Thermal Resistance ⁵		N/A
Product Standard Compliance		ASTM C1396
Fire-Resistance Characteristics		
Core Type		N/A
UL Type Designation		N/A
Combustibility ²		Non-combustible Core
Surface Burning Characteristics ³		Class A
Flame Spread ³		15
Smoke Development ³		0
Applicable Standards and References		
ASTM C473 <i>Standard Test Methods for Physical Testing of Gypsum Panel Products</i>		
ASTM C518 <i>Standard Test Method for Steady-State Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus</i>		
ASTM C840 <i>Standard Specification for Application and Finishing of Gypsum Board</i>		
ASTM C1396 <i>Standard Specification for Gypsum Board</i>		
ASTM E84 <i>Standard Test Method for Surface Burning Characteristics of Building Materials</i>		
ASTM E136 <i>Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C</i>		
Gypsum Association, GA-214, <i>Levels of Finish for Gypsum Panel Products</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>		
Gold Bond Building Products, LLC Manufacturer Standards, <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.



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High Flex Gypsum Board Installation

- To prevent flat spots, space framing members closer together than required for typical flat wall and ceiling surfaces.
- For concave surfaces: Apply a stop to one end of the curve to restrain one end or edge of the board while installing. Apply pressure to unrestrained end or edge of the gypsum board, forcing the field of the gypsum board into firm contact with the framing. Fasten gypsum board by working from the “stopped” end or edge. Hold gypsum board tightly against the framing while driving fasteners.
- For convex surfaces: Attach one end of the gypsum board to the framing with nails or screws. Progressively push gypsum board into contact with the framing members, working from the fixed end to the free end. Hold gypsum board tightly against each framing member while driving fasteners.

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. To achieve shorter radii than shown in the accompanying table, moisten the face and back papers of the board with water, stacking on a flat surface, and allowing the water to soak into the core. When the board is dry, it will regain its original hardness.

Apply High Flex Gypsum Board to curved surfaces in accordance with the following:

High Flex Bending Radii

Application	Minimum Bending Radii	Maximum Stud Spacing
Lengthwise		
Inside (Concave) Dry	32" (813 mm)	9" (229 mm) o.c.
Outside (Convex) Dry	30" (762 mm)	9" (229 mm) o.c.
Inside (Concave) Wet	20" (508 mm)	9" (229 mm) o.c.
Outside (Convex) Wet	14" (356 mm)	6" (152 mm) o.c.
Widthwise		
Inside (Concave) Dry	20" (508 mm)	9" (229 mm) o.c.
Outside (Convex) Dry	15" (381 mm)	8" (203 mm) o.c.
Inside (Concave) Wet	10" (254 mm)	6" (152 mm) o.c.
Outside (Convex) Wet	7" (178 mm)	5" (127 mm) o.c.

Lengthwise denotes long edges perpendicular to the framing members. Widthwise denotes long edges parallel to the framing members. The values listed above were achieved at 65°F and 45% relative humidity. Lower temperatures and lower humidity will decrease the flexibility.

Wetting the boards is only required on extremely tight radii, or when temperature and humidity conditions are lower than 65°F and 45% relative humidity. When wetting the boards, apply 10-15 ounces of clean water per side with a paint roller or sprayer. Allow to soak for 10-15 minutes before bending.

Finishing

Refer to GA-214, *Levels of Finish for Gypsum Panel Products*, 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.

Prepare and prime gypsum boards prior to texturing.

Refer to GA-214 to determine the level of finishing needed to ensure a surface properly prepared to accept the desired decoration.

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' (9,144 mm) where employing long continuous runs of walls, partitions or ceilings without perimeter relief.
- Avoid gypsum board joints within 12" (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" (12.7 mm) and 5/8" (15.9 mm) gypsum board a maximum of 24" (610 mm) o.c.

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FOR MORE INFORMATION

Architectural Specifications

Gold Bond Building Products CSI MasterFormat® 3-part guide specifications are downloadable as editable Microsoft® Word documents at: goldbondbuilding.com.

Latest Technical Information and Update

Visit goldbondbuilding.com or call National Gypsum Company Construction Services: 1-800-NATIONAL (628-4662).

Technical Information Información Técnica

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