**Gold Bond® BRAND Gypsum Sheathing** is a moisture-resistant sheathing installed on the outside of exterior framing as a substrate for exterior claddings. It is manufactured with a treated water-resistant core and faced with moisture-resistant paper on both faces and on both long edges.

Use it for exterior, fire-rated sheathing applications. 5/8 in. (15.9 mm) Gypsum Sheathing has a Type X core for use in fire-rated assemblies.

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

**Sizes:** 5/8 in. (15.9 mm) thick Type X Sheathing is available in a 4 ft. (1,219 mm) width and standard lengths of 8 ft. (2,438 mm) to 10 ft. (3,048 mm).
Basic Uses

APPLICATIONS

- Use it as a sheathing on wood or steel framing to provide fire resistance and moisture protection when used under exterior claddings, such as wood, vinyl and fiber cement siding, masonry veneer, Exterior Insulation and Finish Systems (EIFS) and stucco.
- Use it as a sheathing for fire-resistance-rated exterior wall assemblies.

ADVANTAGES

- Fire-resistant material with a non-combustible gypsum core of gypsum sheathing helps protect framing elements even when the siding or finish material is combustible. Gypsum sheathing does not require taping of joints in fire-rated exterior wall assemblies.
- The moisture-resistant core and face paper provide a durable substrate for weather resistant barriers.
- For ease of installation, score and snap gypsum sheathing to exact size without sawing.
- 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.

Installation Recommendations

GENERAL

- Install gypsum board in accordance with methods described in ASTM C1280 and GA-253.
- 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.

GYPSUM SHEATHING

Install gypsum sheathing panels vertically or horizontally with vertical edges butting over the center of framing members. Fit sheathing snugly around all openings.

Install sheathing with a 3/8 in. (9.5 mm) gap where non-loadbearing construction abuts structural elements.

Install sheathing with a 1/4 in. (6.4 mm) gap where they abut masonry or similar materials that might retain moisture, to prevent wicking.

VINYL, WOOD AND FIBER CEMENT SIDING

Apply horizontal siding and vertical siding directly over gypsum sheathing covered with weather resistant barrier. Butt siding joints over framing members. Fasteners should have a minimum 1 in. (25.4 mm) penetration into each wood framing member and penetration of each metal framing member recommended by fastener manufacturer.

STUCCO

Nail or screw 3.4 lb. self-furring galvanized Diamond Mesh metal lath through gypsum sheathing into the framing. Install metal lath immediately after installing gypsum sheathing and weather resistant barrier.

BRICK VENEER

Wall ties for masonry veneer should be fastened through gypsum sheathing with fasteners that penetrate a minimum of 1 in. (25.4 mm) into each wood framing member and penetration of each metal framing member recommended by fastener manufacturer. Maintain an air space of minimum 2 in. (50.8 mm) between gypsum sheathing and brick veneer per recommendations of the Brick Institute of America.
# TECHNICAL DATA

## PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Gypsum Sheathing</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thickness</strong>, Nominal</td>
<td>5/8&quot; (15.9 mm)</td>
</tr>
<tr>
<td><strong>Width</strong>, Nominal</td>
<td>4' (1,219 mm)</td>
</tr>
<tr>
<td><strong>Length</strong>, Standard</td>
<td>8' – 10' (2,438 – 3,048 mm)</td>
</tr>
<tr>
<td><strong>Weight</strong>, Nominal</td>
<td>2.3 lbs. / sq. ft. (11.23 k/m²)</td>
</tr>
<tr>
<td><strong>Edges</strong></td>
<td>Square</td>
</tr>
<tr>
<td><strong>Flexural Strength</strong>, Perpendicular</td>
<td>≥ 147 lbf. (654 N)</td>
</tr>
<tr>
<td><strong>Flexural Strength</strong>, Parallel</td>
<td>≥ 46 lbf. (205 N)</td>
</tr>
<tr>
<td><strong>Humidified Deflection</strong></td>
<td>≤ 5/8&quot; (15.9 mm)</td>
</tr>
<tr>
<td><strong>Nail Pull Resistance</strong></td>
<td>≥ 87 lbf. (387 N)</td>
</tr>
<tr>
<td><strong>Hardness</strong> – Core, Edges and Ends</td>
<td>≥ 11 lbf. (49 N)</td>
</tr>
<tr>
<td><strong>Bending Radius</strong></td>
<td>15' (4,572 mm)</td>
</tr>
<tr>
<td><strong>Thermal Resistance</strong></td>
<td>R = .56</td>
</tr>
<tr>
<td><strong>Permeance</strong></td>
<td>20 perms</td>
</tr>
<tr>
<td><strong>Water Absorption</strong> (%) of Weight</td>
<td>≤10%</td>
</tr>
<tr>
<td><strong>Linear Expansion with Change Moisture</strong></td>
<td>6.5 x 10⁻⁴ in./in./%RH</td>
</tr>
<tr>
<td><strong>Coefficient of Thermal Expansion</strong></td>
<td>9.3 x 10⁻⁴ in./in./˚F</td>
</tr>
<tr>
<td><strong>Racking Strength</strong> (Ultimate – not design value)</td>
<td>&gt; 654 lbs./ft. (887 N/m)</td>
</tr>
<tr>
<td><strong>Compressive Strength</strong></td>
<td>400 psi</td>
</tr>
</tbody>
</table>

## Fire-Resistance Characteristics

<table>
<thead>
<tr>
<th>Property</th>
<th>Type X</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UL Type Designation</strong></td>
<td>F5W</td>
</tr>
<tr>
<td><strong>Combustibility</strong></td>
<td>Non-combustible Core</td>
</tr>
<tr>
<td><strong>Surface Burning Characteristics</strong></td>
<td>Class A</td>
</tr>
<tr>
<td><strong>Flame Spread</strong></td>
<td>20</td>
</tr>
<tr>
<td><strong>Smoke Development</strong></td>
<td>0</td>
</tr>
</tbody>
</table>

## Applicable Standards and References

- ASTM C840 Standard Specification for Application and Finishing of Gypsum Board
- ASTM C1396 Standard Specification for Gypsum Board
- ASTM E72 Standard Test Methods of Conducting Strength Tests of Panels for Building Construction
- ASTM E96 Standard Test Methods for Water Vapor Transmission of Materials
- ASTM E136 Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750˚C
- Gypsum Association, GA-214, Recommended Levels of Finish for Gypsum Board, Glass Mat and Fiber-Reinforced Gypsum Panels
- Gypsum Association, GA-216, Application and Finishing of Gypsum Panel Products
- Gypsum Association, GA-238, Guidelines for Prevention of Mold Growth on Gypsum Board
- Gypsum Association, GA-253, Application of Gypsum Sheathing
- National Gypsum Company, NGC Construction Guide

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.
6. Tested in accordance with ASTM E96.
7. Tested in accordance with ASTM E72.
8. Tested in accordance with ASTM C473, Annex X3.
**SHEAR WALL APPLICATIONS WITH GYPSUM SHEATHING**

For shear walls constructed with 5/8 in (15.9 mm) Gold Bond® brand Gypsum Sheathing, apply sheathing vertically to studs 16 in. (406 mm) o.c. with 11-gauge, 1-3/4 in. (44.5 mm) long, galvanized nails 4 in. (102 mm) o.c. at edges and 8 in. (203 mm) o.c. at intermediate studs.

**Corner Bracing:** Where continuous diagonal bracing is required, many building codes allow the use of 48 in. (1,219 mm) wide 5/8 in. (15.9 mm) gypsum sheathing panels applied vertically to be used in place of 1 in. (25.4 mm) x 4 in. (102 mm) wood let-in or metal strap bracing.

**Shear Walls:** Where wind or seismic forces require shear walls to resist these lateral forces, most building codes provide allowable shear values for walls having gypsum sheathing applied vertically to framing. Specific values with construction requirements and limitations are contained in the model building code (ICC: International Building Code [IBC] and International Residential Code for One- and Two-Family Dwellings [IRC]). Shear values for all gypsum panels, including gypsum sheathing, are defined in GA-229, *Shear Values for Screw Application of Gypsum Board on Walls* at: [gypsum.org](http://gypsum.org).


**FASTENING**

**Nails:** Galvanized, 11-gauge, 7/16 in. (11.1 mm) head, 1-1/2 in. (38.1 mm) long for 1/2 in. (12.7 mm) sheathing and 1-3/4 in. (44.4 mm) long for 5/8 in. (15.9 mm) sheathing.

**Screws:** ASTM C1002 or ASTM C954, 1-1/4 in. (31.8 mm) long Type W for wood framing and 1 in. (25.4 mm) long Type S-12 for metal framing.

**Staples:** Galvanized 16-gauge, 7/16 in. (11.1 mm) crown, 1-1/2 in. (38.1 mm) long for 1/2 in. (12.7 mm) sheathing and 1-5/8 in. (41.3 mm) long for 5/8 in. (15.9 mm) sheathing.

Fastener heads should bear tightly against the face of the sheathing panel but should not cut into the facing paper. Staples should be driven with the crown parallel to the framing. Fasteners should be no less than 3/8 in. (9.5 mm) from the edges and ends of the panel. When shear values are not required, fasteners should be spaced not more than 8 in. (203 mm) o.c. along the vertical ends or edges and intermediate supports.

**Limitations**

- Gold Bond® brand Gypsum Sheathing is not a finished surface nor is it a substrate for the direct application of joint compound, stucco, paint or textures. Placement of vapor retarders within the wall assembly is the responsibility of the design professional.

- Do not use gypsum sheathing as a nailing base. Mechanical fasteners should pass through the sheathing and engage the framing member behind the sheathing.

- Install Exterior Insulation Finish Systems (EIFS) over gypsum sheathing using mechanical fasteners. The performance of EIFS and recommendation of the proper methods of attachment are the responsibility of the EIFS manufacturer.

- Install materials used in conjunction with gypsum sheathing in accordance with the respective manufacturer’s recommendations.

- Do not apply gypsum sheathing below grade. Comply with building code grade clearance requirements.
- Protect gypsum sheathing from the elements and maintain in good condition prior to and following installation. Stack panels flat, with care taken to prevent sagging or damage to edges, ends or surfaces.

- Do not laminate gypsum sheathing directly to masonry surfaces; fasten panels to furring strips or framing.

- Gypsum sheathing is not intended for tile applications. For tile applications, either Gold Bond® brand eXP® Tile Backer or PermaBase® brand Cement Board are recommended.

- Gypsum sheathing is not a replacement for specific structurally engineered sheathing in shear wall designs.

- Adhesive-only application of gypsum sheathing to framing is not recommended.

- Gypsum sheathing framing supports should not exceed 24 in. (610 mm) o.c.

- Gypsum sheathing is not recommended for application to exterior ceilings and soffits. National Gypsum Company’s Gold Bond® brand eXP® Sheathing or Gold Bond® brand eXP® Interior Extreme® Gypsum Panels are recommended for these conditions.

- Gypsum sheathing should be covered with a weather resistant barrier immediately after installation.

- Gypsum sheathing applied perpendicular to framing should be covered at time of application with building felt or equivalent weather resistant barrier, or horizontal joints should be sealed.
Gold Bond® BRAND
Gypsum Sheathing

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.