

## SECTION 13

### I N T E R I O R G Y P S U M W A L L B O A R D

Interior sheetrock, or gypsum wall board, shall not be installed until weather protection for the installation is provided.

Wallboard shall not be installed on exterior surfaces. It may be used as backing for metal lath or wire fabric lath and cement plaster.

Where 5/8" firecode gypsum board is used to qualify as a one-hour fire resistive wall or ceiling assembly, wood framing must be spaced on 16" centers.

All edges and ends of gypsum wallboard shall occur on the framing members except those edges and ends which are perpendicular to the framing members. All edges and ends shall be in moderate contact except in concealed spaces where fire-resistive construction or diaphragm action is not required.

Water resistant gypsum board shall not be used on ceilings where frame spacing exceeds 12" on center.

### GYPSUM PANEL PRODUCTS TYPES, USES, SIZES, AND STANDARDS (GA-223-04)

PRODUCT	DEFINED USE	ASTM STANDARD <sup>††</sup>	INSTALLATION	TYPE <sup>†††</sup>
1. Gypsum Wallboard	Interior Walls & Ceilings	C 1396, C 36	GA-216	1, 2, 3
2. Gypsum Ceiling Board	Interior Ceilings	C 1396, C 1395	GA-216	1, 2, 3
3. Fiber Reinforced Gypsum Panels	Interior & Exterior Walls & Ceilings, & Tile Base	C 1278	†	1, 2
4. Gypsum Sheathing	Exterior Walls, Roof Systems	C 1396, C 79	GA-253	1, 2
5. Glass Mat Gypsum Substrate for Use as Sheathing	Exterior Walls & Ceilings	C 1177	†	1, 2
6. Gypsum Soffit Board	Exterior Soffits & Ceilings	C 1396, C 931	GA-216	1, 2
7. Water-Resistant Gypsum Backing Board	Tile Base	C 1396, C 630	GA-216	1, 2
8. Glass Mat Water-Resistant Gypsum Backing Board	Tile Base	C 1178	†	1, 2
9. Gypsum Backing Board	Base for Multi-Ply Systems	C 1396, C 442	GA-216	1, 2, 3
10. Gypsum Lath	Base for Gypsum Plaster (C 28)	C 1396, C 37	ASTM C 841	1, 2, 3
11. Gypsum Plaster Base	Base for Veneer Plaster (C 587)	C 1396, C 588	ASTM C 844	1, 2, 3
12. Gypsum Shaft Liner Board	Shaft, Stairway, Duct Enclosures, Area Separation Walls, Base for Solid or Semi-Solid Partitions	C 1396, C 442	GA-216, †	1, 2
13. Predecorated Gypsum Board	Accent Walls, Office & Movable Partitions	C 1396, C 960	GA-224	1, 2, 3
14. Gypsum Board for Manufactured Housing	Manufactured Housing Walls & Ceilings	C 1396, C 36, & C 960	GA-216	1, 2, 3

† See Manufacturer's specifications and recommendations.

†† ASTM C 1396 is the preferred reference; C 36, C 37, C 79, C 442, C 588, C 630, C 931, C 960, & C 1395 are being phased out.

††† Types: 1 = Regular  
2 = Type X  
3 = Foil Backed

#### CANADIAN STANDARDS ASSOCIATION (CSA) STANDARD

Products 1, 4, 6, 7, 9-12, 14, and 15 comply with CAN/CSA-A82.27-M

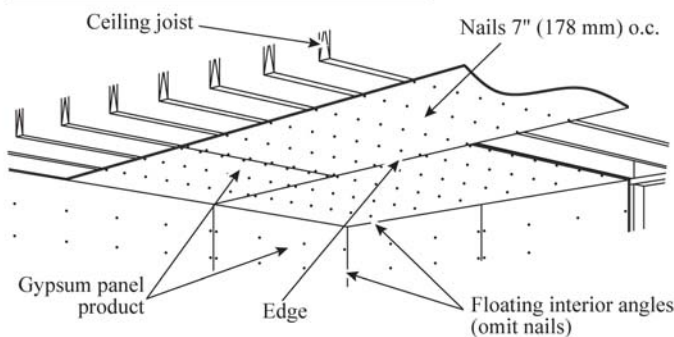
THICKNESS	TYPICAL USES
1/4" (6.4 mm)	remodeling, double layer walls, curved surfaces, sound attenuation systems
5/16" (7.9 mm)	manufactured housing walls and ceilings
3/8" (9.5 mm)	remodeling, base for rigid panels, double layer walls/ceilings, curved surfaces
1/2" (12.7 mm) & 5/8" (15.9 mm)	any interior and some protected exterior uses
3/4" (19.0 mm) & 1" (25.4 mm)	interior walls; shaft walls, area separation walls, party walls, fire walls, stairways, duct enclosures

WIDTH, in. (mm)		24 (610)	24 (610)	24 (610)	24 (610)	48 (1220)	48 (1220)	48 (1220)	48 (1220)	48 (1220)	48 (1220)	54 (1370)
LENGTH, ft (mm)		8 (2440)	9 (2745)	10 (3050)	12 (3660)	8 (2440)	9 (2745)	10 (3050)	12 (3660)	14 (4270)	16 (4880)	12 (3660)
THICKNESS?	1/4" (6.4 mm)					▪	▪	▪				
	5/16" (7.9 mm)					▪	▪	▪	▪			
	3/8" (9.5 mm)					▪	▪	▪				
	1/2" (12.7 mm)					▪	▪	▪	▪	▪	▪	▪
	5/8" (15.9 mm)					▪	▪	▪	▪	▪	▪	▪
	3/4" (19.0 mm)	▪	▪	▪	▪	▪	▪	▪	▪			
	1" (25.4 mm)	▪	▪	▪	▪							

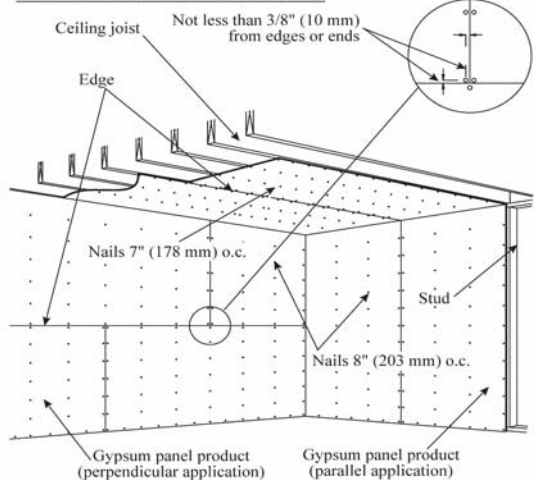
- 1 Not all types of gypsum panel products are available in all lengths, widths, and thicknesses.
- 2 Metric (SI) thicknesses are the industry accepted metric designations for gypsum panel product thicknesses. Contact the manufacturer for the availability of gypsum panel products in hard metric (SI) widths and lengths.

**NOTE: For fire and sound rated systems, see G A-600, Fire Resistance Design Manual**

**PERPENDICULAR CEILING APPLICATION**



**PARALLEL CEILING APPLICATION**



**ADHESIVES**

Gypsum wallboard may be applied to wood framing members with an approved adhesive. A continuous bead of the adhesive shall be applied to the face of all framing members, except top and bottom plates, of sufficient size as to spread to an average width of 1" and thickness of 1/16" when the wallboard is applied. Where the edges or ends of 2 pieces of wallboard occur on the same framing member, 2 continuous parallel beads of adhesive shall be applied to the framing member.

**Table 3**  
**Fastener Lengths for Gypsum Panel Product Application to Wood Framing<sup>A</sup>**

Gypsum Panel Product Thickness <sup>B</sup> in. (mm)	Minimum Nail Length in. (mm)	Minimum Screw Length in. (mm)	Minimum Staple <sup>C</sup> Length in. (mm)
1/4 (6.4)	<i>D</i>	<i>D</i>	<i>D</i>
3/8 (9.5)	1 1/4 (32)	1 (25)	1 (25)
1/2 (12.7)	1 3/8 (35)	1 1/8 (28)	1 1/8 (28)
5/8 (15.9)	1 1/2 (38)	1 1/4 (32)	1 1/4 (32)

<sup>A</sup> Where fire resistance is required for gypsum panel product systems, fasteners of the same or larger length, shank diameter, and head bearing area as those described in the fire-rated design shall be used.

<sup>B</sup> For other thicknesses, for multi-layer applications, or for application over rigid foam insulation fasteners shall be of sufficient length to penetrate framing not less than 3/4 in. (19 mm) for nails, 5/8 in. (15 mm) for screws, and 5/8 in. (16 mm) for staples.

<sup>C</sup> Staple attachment is restricted to base layers of multi-layer systems only. (See Section 4.8.4.)

<sup>D</sup> For application over existing solid surfaces or in multi-layer applications, fastener shall be of sufficient length to penetrate framing not less than 3/4 in. (19 mm) for nails, 5/8 in. (16 mm) for screws.

**Table 1**  
**Maximum Framing Spacing For Single-Layer Gypsum Panel Product**

Gypsum Panel Product Thickness in. (mm)	Gypsum Panel Product Orientation to Framing	Maximum Framing Spacing in. (mm) o.c.
<b>Ceilings:</b>		
3/8 (9.5) <sup>A</sup>	Perpendicular <sup>B</sup>	16 (406)
1/2 (12.7)	Parallel <sup>B</sup>	16 (406)
1/2 (12.7)	Perpendicular <sup>B</sup>	24 (610)
5/8 (15.9)	Parallel	16 (406)
5/8 (15.9)	Perpendicular	24 (610)
<b>Walls:</b>		
3/8 (9.5)	Perpendicular or Parallel	16 (406)
1/2 (12.7)	Perpendicular or Parallel	24 (610)
5/8 (15.9)	Perpendicular or Parallel	24 (610)

<sup>A</sup> Shall not support thermal insulation.

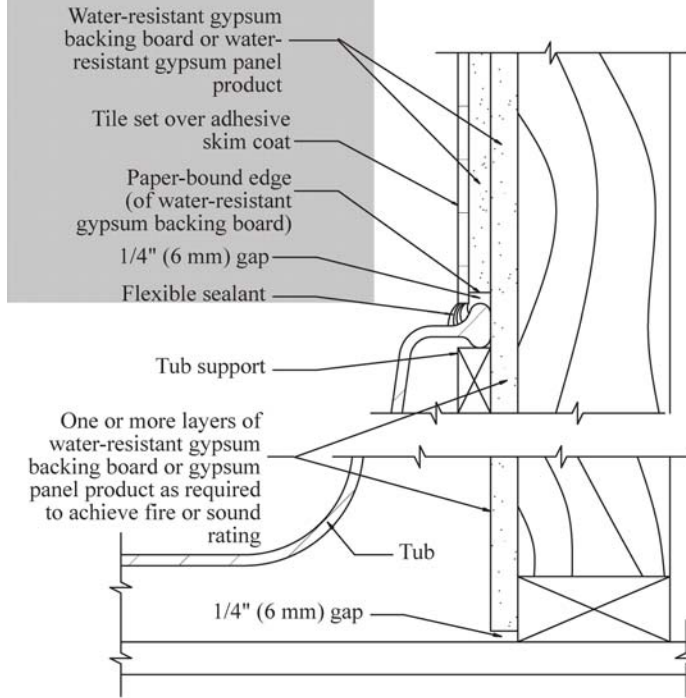
<sup>B</sup> On ceilings to receive hand or spray-applied water-based texture material either i) 1/2 in. (12.7 mm) gypsum ceiling board (ASTM C 1396/C 1396M shall be applied perpendicular to framing; or ii) other gypsum panel products shall be applied perpendicular to framing and board thickness shall be increased from 3/8 in. (9.5 mm) to 1/2 in. (12.7 mm) for 16 in. (406 mm) o.c. framing and from 1/2 in. (12.7 mm) to 5/8 in. (15.9 mm) for 24 in. (610 mm) o.c. framing. See Appendix A.2.

**Table 6**  
**Base Layer Fastener Spacing for Multi-Layer Gypsum Panel Product Application\***

Location	Framing Spacing in.(mm)	Base Layer Nail Spacing in. (mm)		Base Layer Screw Spacing in. (mm)		Base Layer Staple Spacing in. (mm)	
		Where Face Layer is Laminated	Where Face Layer is Mechanically Attached	Where Face Layer is Laminated	Where Face Layer is Mechanically Attached	Where Face Layer is Laminated	Where Face Layer is Mechanically Attached
		Walls	16 (406) 24 (610)	8 (203) 24 (610)	24 (610) 24 (610)	16 (406) 12 (305)	24 (610) 24 (610)
Ceilings	16 (406) 24 (610)	7 (178) 7 (178)	16 (406) 16 (406)	12 (305) 12 (305)	24 (610) 24 (610)	7 (178) 7 (178)	16 (406) 16 (406)

\* Fastener spacing for the face layer in multi-layer systems shall be as specified in Sections 5.5 through 5.8 for single-layer systems.

**Figure 14**  
**Typical details - tub installation in**  
**fire-rated or sound-rated system**



**Figure 13**  
**Typical details - shower pan installation**

