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## SECTION 09260 - GYPSUM BOARD ASSEMBLIES

This Section uses the term "Architect." Change this term to match that used to identify the design professional as defined in the General and Supplementary Conditions.

Verify that Section titles referenced in this Section are correct for this Project's Specifications; Section titles may have changed.

### 1- GENERAL

#### 1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

#### 2 SUMMARY

- A. This Section includes the following:

Adjust list below to suit Project.

- 1. Interior gypsum wallboard.
- 2. Exterior gypsum board panels for ceilings and soffits.

Delete subparagraph below if specified in Division 9 Section "Ceramic Tile."

- 3. Tile backing panels.

4. Non-load-bearing steel framing.

B. Related Sections include the following:

List below only products and construction that the reader might expect to find in this Section but are specified elsewhere.

1. Division 5 Section "[**Cold-Formed Metal Framing**] <Insert Section title>" for load-bearing steel framing.
2. Division 6 Section "[**Rough Carpentry**] <Insert Section title>" for wood framing and furring[, and gypsum sheathing applied over wood framing].
3. Division 7 Section "[**Building Insulation**] <Insert Section title>" for insulation and vapor retarders installed in gypsum board assemblies.
4. Division 9 Section "[**Gypsum Veneer Plaster**] <Insert Section title>" for framing, gypsum base for veneer plaster, and other components of gypsum veneer plaster assemblies.
5. Division 9 Section "[**Factory-Finished Gypsum Board**] <Insert Section title>" for gypsum board with a factory-applied decorative film.
6. Division 9 Section "[**Gypsum Sheathing**] <Insert Section title>" for installations over steel framing.
7. Division 9 Section "[**Gypsum Board Shaft-Wall Assemblies**] <Insert Section title>" for framing, gypsum panels, and other components of shaft wall assemblies.

Delete below if tile backing panels are specified in this Section.

8. Division 9 Section "[**Ceramic Tile**] <Insert Section title>" for cementitious backer units installed as substrates for ceramic tile.

### 3 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

### 4 SUBMITTALS

- A. Product Data: For each type of product indicated.

Generally, delete first paragraph below and detail control and expansion joints and indicate their

locations on Drawings.

- B. Shop Drawings: Show locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.
- C. Samples: For the following products:

Retain first subparagraph below if special trim types and profiles are required. Generally, delete for standard-type trims selected at Contractor's option.

- 1. Trim Accessories: Full-size sample in ~~12-inch-~~ (300-mm-) long length for each trim accessory indicated.
- 2. Textured Finishes: [**Manufacturer's standard size**] <Insert size> for each textured finish indicated and on same backing indicated for Work.

## 5 QUALITY ASSURANCE

Retain paragraph and subparagraph below for fire-rated assemblies.

- A. Fire-Test-Response Characteristics: For gypsum board assemblies with fire-resistance ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing and inspecting agency acceptable to authorities having jurisdiction.

Indicate design designations of specific assemblies on Drawings.

- 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from [FM's "**Approval Guide, Building Products.**"] [UL's "**Fire Resistance Directory.**"] [GA-600, "**Fire Resistance Design Manual.**"] [ITS's "**Directory of Listed Products.**"] <Insert listing organization and publication.>

Retain paragraph and subparagraph below for STC-rated assemblies.

- B. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

Indicate design designations and STC ratings of specific assemblies on Drawings.

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1. STC-Rated Assemblies: Indicated by design designations from [GA-600, "Fire Resistance Design Manual."] <Insert listing organization and publication.>

Delete paragraph and subparagraphs below if not required. If retaining, indicate location, size, and other details of mockups on Drawings or by inserts. Revise wording if only one mockup is required.

- C. Gypsum Board Finish Mockups: Before finishing gypsum board assemblies, install mockups of at least 100 sq. ft. (9 sq. m) in surface area to demonstrate aesthetic effects and qualities of materials and execution.
  1. Install mockups for the following applications:

In-place texture finishes often vary from manufacturers' samples. Requiring a mockup is recommended.

- a. Surfaces with texture finishes.
- b. Surfaces indicated to receive nontextured paint finishes.
- c. Surfaces indicated to receive textured paint finishes.

2. Simulate finished lighting conditions for review of mockups.

Retain below only if mockups are installed as part of Project rather than separately; otherwise, Division 1 requires that they be removed when directed.

3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

## 6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packages, containers, or bundles bearing brand name and identification of manufacturer or supplier.
- B. Store materials inside under cover and keep them dry and protected against damage from weather, direct sunlight, surface contamination, corrosion, construction traffic, and other causes. Stack gypsum panels flat to prevent sagging.

## 7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.

## 2- PRODUCTS

### 1 MANUFACTURERS

Consider deleting this Article if standards adequately specify commodity-type products.

- A. ~~Steel Framing and Furring~~:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

- B. Manufacturers: Subject to compliance with requirements, provide products [**by one**] of the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming products and manufacturers.

1. ~~Steel Framing and Furring~~:
  - a. Clark Steel Framing Systems.
  - b. Consolidated Systems, Inc.
  - c. Dale Industries, Inc. - Dale/Incor.
  - d. Dietrich Industries, Inc.
  - e. MarinoWare; Division of Ware Ind.
  - f. National Gypsum Company.
  - g. Scafco Corporation.
  - h. Unimast, Inc.
  - i. Western Metal Lath & Steel Framing Systems.
  - j. **<Insert manufacturer.>**

- C. Gypsum Board and Related Products:

1. ~~Basis-of-Design Product: The design for each gypsum board and related product is based on National Gypsum Company products named in other Part 2 articles. Subject to compliance with requirements, provide the named product or a comparable product by one of the following:~~

Manufacturers listed below market products nationally. Insert names of other gypsum  
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manufacturers if their products are available in Project area and comply with specified requirements. See Evaluations for list of members of the Gypsum Association (GA). Not all manufacturers offer a full range of related products.

- a. American Gypsum Co.
- b. G-P Gypsum Corp.
- ~~e. National Gypsum Company.~~
- d. United States Gypsum Co.
- e. <Insert manufacturer.>

Product characteristics may be specified in subsequent articles by selecting "As indicated" as a default requirement. If retaining "As indicated," indicate these characteristics on Drawings and consider deleting requirements from the Specification.

## 2 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

Delete this Article if no suspended or furred ceilings or soffits.

- A. Components, General: Comply with ASTM C 754 for conditions indicated.
- B. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, **0.0625-inch- (1.59-mm-)** diameter wire, or double strand of **0.0475-inch- (1.21-mm-)** diameter wire.
- C. Hanger Attachments to Concrete: As follows:

Retain one of two subparagraphs and associated subparagraph below for hanger attachment to concrete decks. Coordinate with hangers specified and verify safety factors with Project's structural engineer.

1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching hanger wires and capable of sustaining, without failure, a load equal to [5] <Insert number> times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.
  - a. Type: [**Cast-in-place anchor, designed for attachment to concrete forms**] [**Postinstalled, chemical anchor**] [**Postinstalled, expansion anchor**].
2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other devices for attaching

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hangers of type indicated, and capable of sustaining, without failure, a load equal to [10] <Insert number> times that imposed by construction as determined by testing according to ASTM E 1190 by a qualified independent testing agency.

See "Corrosion Protection of Steel Framing" Article in the Evaluations for a discussion of corrosion-resistant coatings on components.

D. Hangers: As follows:

Retain appropriate hanger subparagraphs below. Verify requirements of authorities having jurisdiction. If more than one type of hanger is required, indicate locations of each on Drawings.

1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.
2. Rod Hangers: ASTM A 510 (ASTM A 510M), mild carbon steel.
  - a. Diameter: [As indicated] [7/32-inch (5.56-mm)] [1/4-inch (6.34-mm)] <Insert diameter>.
  - b. Protective Coating: [ASTM A 153/A 153M, hot-dip galvanized] [Corrosion-resistant paint].
3. Flat Hangers: Commercial-steel sheet, [ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized] [ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized] [ASTM A 366/A 366M, with corrosion-resistant paint finish].
  - a. Size: [As indicated] [1 by 3/16 inch (25.4 by 4.76 mm) by length indicated] <Insert size>.

Angle hangers may be required for exterior soffits subject to exceptional uplifts.

4. Angle Hangers: ASTM A 653/A 653M, [G60 (Z180)] <Insert coating thickness designation>, hot-dip galvanized commercial-steel sheet.
  - a. Minimum Base Metal Thickness: [As indicated] [0.0179 inch (0.45 mm)] [0.0312 inch (0.79 mm)] <Insert thickness>.
  - b. Size: [As indicated] [7/8 by 1-3/8 inches (22.2 by 34.9 mm)] [1-5/8 by 1-5/8 inches (41.3 by 41.3 mm)] [2 by 2 inches (50.8 by 50.8 mm)] <Insert size>.

E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch (1.37 mm), a minimum 1/2-inch- (12.7-mm-) wide

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flange, with [ASTM A 653/A 653M, **G40 (Z120)**, hot-dip galvanized] [ASTM A 653/A 653M, **G60 (Z180)**, hot-dip galvanized] [manufacturer's standard corrosion-resistant] zinc coating.

1. Depth: [As indicated] [**2-1/2 inches (63.5 mm)**] [**2 inches (50.8 mm)**] [**1-1/2 inches (38.1 mm)**].

F. Furring Channels (Furring Members): Commercial-steel sheet with [ASTM A 653/A 653M, **G40 (Z120)**, hot-dip galvanized] [ASTM A 653/A 653M, **G60 (Z180)**, hot-dip galvanized] [manufacturer's standard corrosion-resistant] zinc coating.

Retain one of four furring channel subparagraphs or associated subparagraphs below or, if more than one is required, indicate locations of each on Drawings.

1. Cold Rolled Channels: **0.0538-inch (1.37-mm)** bare steel thickness, with minimum **1/2-inch- (12.7-mm-)** wide flange, **3/4 inch (19.1 mm)** deep.
2. Steel Studs: ASTM C 645.
  - a. Minimum Base Metal Thickness: [As indicated] [**0.0179 inch (0.45 mm)**] [**0.0312 inch (0.79 mm)**] <Insert thickness>.
  - b. Depth: [As indicated] [**1-5/8 inches (41.3 mm)**] [**2-1/2 inches (63.5 mm)**] [**3-5/8 inches (92.1 mm)**] <Insert depth>.
3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, **7/8 inch (22.2 mm)** deep.
  - a. Minimum Base Metal Thickness: [As indicated] [**0.0179 inch (0.45 mm)**] [**0.0312 inch (0.79 mm)**] <Insert thickness>.
4. Resilient Furring Channels: **1/2-inch- (12.7-mm-)** deep members designed to reduce sound transmission.
  - a. Configuration: [Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs] [Asymmetrical, with face attached to single flange by a slotted leg (web)] [Hat shaped, with face attached to two flanges by slotted or expanded metal legs].

Grid suspension systems are generally unsuitable for exterior applications.

G. Grid Suspension System for Interior Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.



1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

- a. Armstrong World Industries, Inc.; Furring Systems/Drywall.
- b. Chicago Metallic Corporation; [**Fire Front 630**] [**Drywall Furring 640**] [**Fire Front 650**] [**Drywall Furring 660**] [**Fire Front 670**] System.
- c. USG Interiors, Inc.; Drywall Suspension System.
- d. <**Insert manufacturer and product.**>

### 3 STEEL PARTITION AND SOFFIT FRAMING

#### A. Components, General: As follows:

1. Comply with ASTM C 754 for conditions indicated.

See "Corrosion Protection of Steel Framing" Article in the Evaluations for a discussion of corrosion-resistant coatings on components.

2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with [**ASTM A 653/A 653M, G40 (Z120), hot-dip galvanized**] [**ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized**] [**manufacturer's standard corrosion-resistant**] zinc coating.

#### B. Steel Studs and Runners: ASTM C 645.

GA-600 recommends 0.0312-inch- (0.79-mm-) thick studs at fire-door frames supporting standard and heavy-weight doors, but includes an alternate detail for nested 0.0179-inch (0.45-mm) studs for standard-weight doors.

1. Minimum Base Metal Thickness: [**As indicated**] [**0.0179 inch (0.45 mm)**]

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[0.027 inch (0.7 mm)] [0.0312 inch (0.79 mm)].

2. Depth: [As indicated] [3-5/8 inches (92.1 mm)] [6 inches (152.4 mm)] [4 inches (101.6 mm)] [2-1/2 inches (63.5 mm)] [1-5/8 inches (41.3 mm)].

- C. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch- (50.8-mm-) deep flanges.

For slip joint at stud and top-track interface to avoid axial loading of partition, retain paragraph above or below or delete both and insert requirements to suit Project. See "Crack Control" Article in the Evaluations.

- D. Proprietary Deflection Track: Steel sheet top runner manufactured to prevent cracking of gypsum board applied to interior partitions resulting from deflection of structure above; in thickness indicated for studs and in width to accommodate depth of studs.

1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Product: Subject to compliance with requirements, provide [one of] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

- a. Delta Star, Inc., Superior Metal Trim; Superior Flex Track System (SFT).
- b. Metal-Lite, Inc.; Slotted Track.
- c. <Insert manufacturer and product.>

Paragraph below specifies proprietary top tracks for isolating partition framing from structure above in specific fire-resistance-rated assemblies. If retaining, revise to coordinate with rated assemblies selected and indicate design designations of assemblies on Drawings.

- E. Proprietary Firestop Track: Top runner manufactured to allow partition heads to expand and contract with movement of the structure while maintaining continuity of fire-resistance-rated assembly indicated; in thickness not less than indicated for studs and in width to accommodate depth of studs.

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1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Product: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

- a. Fire Trak Corp.; Fire Trak [**attached to studs with Fire Trak Slip Clip**].
- b. Metal-Lite, Inc.; The System.
- c. **<Insert manufacturer and product.>**

Retain paragraph and subparagraph below for flat-strap blocking and bracing for fixture attachment. Indicate locations, lengths, and widths on Drawings.

- F. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
  1. Minimum Base Metal Thickness: [**As indicated**] [**0.0179 inch (0.45 mm)**] [**0.027 inch (0.7 mm)**] [**0.0312 inch (0.79 mm)**] **<Insert thickness>**.

Retain paragraph and subparagraphs below for channel bridging for fixture attachment or lateral bracing. Indicate locations and details of installation on Drawings.

- G. Cold-Rolled Channel Bridging: **0.0538-inch (1.37-mm)** bare steel thickness, with minimum **1/2-inch- (12.7-mm-)** wide flange.
  1. Depth: [**As indicated**] [**1-1/2 inches (38.1 mm)**] **<Insert depth>**.
  2. Clip Angle: **1-1/2 by 1-1/2 inch (38.1 by 38.1 mm)**, **0.068-inch- (1.73-mm-)** thick, galvanized steel.
- H. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
  1. Minimum Base Metal Thickness: [**As indicated**] [**0.0179 inch (0.45 mm)**] [**0.0312 inch (0.79 mm)**] **<Insert thickness>**.
  2. Depth: [**As indicated**] [**7/8 inch (22.2 mm)**] [**1-1/2 inches (38.1 mm)**].

- I. Resilient Furring Channels: **1/2-inch- (12.7-mm-)** deep, steel sheet members designed to reduce sound transmission.
  1. Configuration: [**Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs**] [**Asymmetrical, with face attached to single flange by a slotted leg (web)**] [**Hat shaped, with face attached to two flanges by slotted or expanded metal legs**].
- J. Cold-Rolled Furring Channels: **0.0538-inch (1.37-mm)** bare steel thickness, with minimum **1/2-inch- (12.7-mm-)** wide flange.
  1. Depth: [**As indicated**] [**3/4 inch (19.1 mm)**] <Insert depth>.
  2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of **0.0312 inch (0.79 mm)**.
  3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, **0.0625-inch- (1.59-mm-)** diameter wire, or double strand of **0.0475-inch- (1.21-mm-)** diameter wire.

Z-furring is available in 1-, 1-1/2-, 2-, 2-1/2-, and 3-inch (25.4-, 38.1-, 50.8-, 63.5-, and 76.2-mm) depths.

- K. Z-Shaped Furring: With slotted or nonslotted web, face flange of **1-1/4 inches (31.8 mm)**, wall attachment flange of **7/8 inch (22.2 mm)**, minimum bare metal thickness of **0.0179 inch (0.45 mm)**, and depth required to fit insulation thickness indicated.
- L. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

#### 4 INTERIOR GYPSUM WALLBOARD

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Gypsum Wallboard: ASTM C 36 **and ASTM C1396**.
  1. Regular Type:

Regular-type gypsum panels are also available in 1/4- and 3/8-inch (6.4- and 9.5-mm) thicknesses for limited applications.

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- a. **Basis-of-Design Product:** National Gypsum Company; Gold Bond Brand Gypsum Wallboard.
  - b. Thickness: [As indicated] [**1/2 inch (12.7 mm)**], unless otherwise indicated] <Insert thickness>.
  - c. Long Edges: [Tapered] [**Tapered and featured (rounded or beveled) for prefilling**].
  - d. Location: [As indicated] [**Vertical surfaces, unless otherwise indicated**].
2. Type X:
- a. **Basis-of-Design Product:** National Gypsum Company; Gold Bond Brand Fire-Shield Wallboard.
  - b. Thickness: [As indicated] [**5/8 inch (15.9 mm)**] [**1/2 inch (12.7 mm)**].
  - c. Long Edges: [Tapered] [**Tapered and featured (rounded or beveled) for prefilling**].
  - d. Location: [As indicated] [**Where required for fire-resistance-rated assembly**] [**Vertical surfaces, unless otherwise indicated**] <Insert requirements>.
- C. Flexible Gypsum Wallboard: ASTM C 36, manufactured to bend to fit tight radii and to be more flexible than standard regular-type panels of the same thickness.
1. **Basis-of-Design Product:** National Gypsum Company; High Flex Brand Gypsum Wallboard.
  2. Thickness: **1/4 inch (6.4 mm)**.
  3. Long Edges: Tapered.
  4. Location: [As indicated] [**Apply in double layer at curved assemblies**].
- D. Sag-Resistant Gypsum Wallboard: ASTM C 36, manufactured to have more sag resistance than regular-type gypsum board.
1. **Basis-of-Design Product:** National Gypsum Company; High Strength Brand Ceiling Board.
  2. Thickness: **1/2 inch (12.7 mm)**.
  3. Long Edges: Tapered.
  4. Location: [As indicated] [**Ceiling surfaces**].
- E. Proprietary, Special Fire-Resistive Type: ASTM C 36, having improved fire resistance over standard Type X.
1. Available Products: Subject to compliance with requirements, products that

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may be incorporated into the Work include, but are not limited to, the  
following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1  
Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide [**one of**] the  
following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and  
products.

- a. American Gypsum Co.; FireBloc Type C.
  - b. G-P Gypsum Corp.; Firestop Type C.
  - c. National Gypsum Company; Gold Bond ~~Fire-Shield-GBrand~~ **Fire-Shield C Wallboard..**
  - d. United States Gypsum Co.; SHEETROCK Brand Gypsum Panels,  
[**FIRECODE C Core**] [**ULTRACODE Core**].
  - e. **<Insert manufacturer and product.>**
3. Thickness: [**As indicated**] [**1/2 inch (12.7 mm)**] [**5/8 inch (15.9 mm)**] [**3/4 inch (19.1 mm)**].
  4. Long Edges: [**Tapered**] [**Tapered and featured (rounded or beveled) for prefilling**].
  5. Location: [**As indicated**] [**Where required for specific fire-resistance-rated assembly indicated**].
- F. Foil-Backed Gypsum Wallboard: ASTM C 36.
1. **Basis-of-Design Product: National Gypsum Company; Gold Bond Brand Foil Backed Gypsum Wallboard.**
  2. Core: [**As indicated**] [**1/2 inch (12.7 mm), regular type**] [**5/8 inch (15.9 mm), Type X**] **<Insert requirements for proprietary, special fire-resistive core>**.
  3. Long Edges: [**Tapered**] [**Tapered and featured (rounded or beveled) for prefilling**].
  4. Location: [**As indicated**] **<Insert requirements>**.
- G. Proprietary Abuse-Resistant Gypsum Wallboard: ASTM C 36, manufactured to produce greater resistance to surface indentation ~~and-through-penetration~~ than standard gypsum panels.
1. Available Products: Subject to compliance with requirements, products that

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may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

- a. National Gypsum Company; ~~Gold Bond Hi-Abuse Wallboard~~ [**Hi-Abuse Brand Gypsum Wallboard**] [**Hi-Abuse Brand Fire-Shield Gypsum Wallboard**].
  - b. United States Gypsum Co.; SHEETROCK Brand Abuse-Resistant Gypsum Panels.
  - c. **<Insert manufacturer and product.>**
3. Core: [**As indicated**] [**1/2 inch (12.7 mm), regular type**] [**5/8 inch (15.9 mm), Type X**].
  4. Long Edges: Tapered.
  5. Location: [**As indicated**] **<Insert requirements>**.
- H. **Propriety Impact-Resistant Gypsum Wallboard: ASTM C36, manufactured to produce greater resistance to surface indentation and through-penetration than standard gypsum panels.**
1. **Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:**

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide the following:
    - a. a.National Gypsum Company; **Hi-Impact Brand Fire-Shield Gypsum Wallboard, [Hi-Impact 1000] [Hi-Impact 2000] [Hi-Impact 3000] [Hi-Impact 8000]**.
    2. 3.Core: [**As indicated**] [**5/8 inch (15.9 mm), Type X**].
    3. 4.Long Edges: Tapered.
    4. 5.Location: [**As indicated**] **<Insert requirements>**.
- I. **I.Gypsum Ceiling Panels: ASTM C 960, Type X Class I.**

1. **Available Products: Subject to compliance with requirements, products that**

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may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide the following:
  - a. National Gypsum Company; [Gridstone Brand Ceiling Panels 2 x 2]  
[Gridstone Brand Ceiling Panels 2x4]
3. Core: [As indicated] [1/2 inch (12.7 mm), regular type].
4. Long Edges: Tapered.
5. Location: [As indicated] [Ceiling surfaces] <Insert requirements>.

## 5 EXTERIOR GYPSUM PANELS FOR CEILINGS AND SOFFITS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.
- B. Exterior Gypsum Soffit Board: ASTM C 931/C 931M, with manufacturer's standard edges.
  1. Basis-of-Design Product: National Gypsum Company; [**Gold Bond Brand Exterior Soffit Board**] [**Gold Bond Brand Fire-Shield Exterior Soffit Board**].
  2. Core: [As indicated] [**1/2 inch (12.7 mm), regular type**] [**5/8 inch (15.9 mm), Type X**].

~~Paragraph below specifies "Dens-Glass Gold" by G-P Gypsum Corp., which can be used in lieu of exterior soffit board:~~

~~C. Glass-Mat Gypsum Sheathing Board: ASTM C 1177/C 1177M.~~

- ~~1. Available Product: Subject to compliance with requirements, a product that may be incorporated into the Work includes, but is not limited to, "Dens-Glass Gold" by G-P Gypsum Corp.~~

~~Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."~~

~~See Editing Instruction No. 1 in the Evaluations for cautions about naming products and manufacturers.~~



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- ~~2. Product: Subject to compliance with requirements, provide "Dens-Glass Gold" by G-P Gypsum Corp.~~
3. **Core: [As indicated] [1/2 inch (12.7 mm), regular type] [5/8 inch (15.9 mm), Type X].**

## 6 TILE BACKING PANELS

- A. Panel Size: Provide in maximum lengths and widths available that will minimize joints in each area and correspond with support system indicated.

Water-resistant gypsum backing board can be painted to produce a continuous wall surface adjacent to tile. To avoid sagging, do not use it on ceilings. See "Tile Backing Panels" Article in the Evaluations.

- B. Water-Resistant Gypsum Backing Board: ASTM C 630/C 630M.

1. **Basis-of-Design Product: National Gypsum Company; [Gold Bond Brand MR Wallboard] [Gold Bond Brand Fire-Shield MR Wallboard].**
2. **Core: [As indicated] [1/2 inch (12.7 mm), regular type] [5/8 inch (15.9 mm), Type X] <Insert requirements for proprietary, special fire-resistant core>.**

~~Paragraph and subparagraphs below specify "Dens-Shield Tile Backer" by GP-Gypsum Corp.~~

- ~~C. Glass-Mat, Water-Resistant Backing Board: ASTM C 1178/C 1178M.~~

- ~~1. Available Product: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, "Dens-Shield Tile Backer" manufactured by G-P Gypsum Corp.~~

~~Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."~~

~~See Editing Instruction No. 1 in the Evaluations for cautions about naming products and manufacturers.~~

- ~~2. Product: Subject to compliance with requirements, provide "Dens-Shield Tile Backer" manufactured by G-P Gypsum Corp.~~
3. **Core: [As indicated] [1/2 inch (12.7 mm), regular type] [5/8 inch (15.9 mm), Type X].**

- D. Cementitious Backer Units: ANSI A118.9.

1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Products: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

- a. Custom Building Products; Wonderboard.
  - b. FinPan, Inc.; Util-A-Crete Concrete Backer Board.
  - c. **National Gypsum Company; PermaBase Brand Cement Board.**
  - d. United States Gypsum Co.; DUROCK Cement Board.
  - e. **<Insert manufacturer and product.>**
3. Thickness: [**As indicated**] [**1/2 inch (12.7 mm)**] **<Insert thickness>**.

## 7 TRIM ACCESSORIES

### A. Interior Trim: ASTM C 1047.

1. Material: [**Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet**] [**Galvanized or aluminum-coated steel sheet or rolled zinc**] [**Plastic**] [**Paper-faced galvanized steel sheet**].
2. Shapes:
  - a. Cornerbead: Use at outside corners[, **unless otherwise indicated**].
  - b. Bullnose Bead: Use [**at outside corners**] [**where indicated**] **<Insert requirements>**.
  - c. LC-Bead: J-shaped; exposed long flange receives joint compound; use [**at exposed panel edges**] **<Insert requirements>**.
  - d. L-Bead: L-shaped; exposed long leg receives joint compound; use [**where indicated**] **<Insert requirements>**.
  - e. U-Bead: J-shaped; exposed short flange does not receive joint compound; use [**at exposed panel edges**] [**where indicated**] **<Insert requirements>**.

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- f. Expansion (Control) Joint: Use [where indicated] <Insert requirements>.
  - g. Curved-Edge Cornerbead: With notched or flexible flanges; use at curved openings.
- B. Exterior Trim: ASTM C 1047.
1. Material: Hot-dip galvanized steel sheet or rolled zinc.
  2. Shapes:
    - a. Cornerbead: Use at outside corners.
    - b. LC-Bead: J-shaped; exposed long flange receives joint compound; use [at exposed panel edges] <Insert requirements>.
    - c. Expansion (Control) Joint: One-piece, rolled zinc with V-shaped slot and removable strip covering slot opening. [Use where indicated] <Insert requirements>.
- C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated.
1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

2. Manufacturers: Subject to compliance with requirements, provide products by [one of] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming products and manufacturers.

- a. Fry Reglet Corp.
  - b. Gordon, Inc.
  - c. MM Systems Corporation.
  - d. Pittcon Industries.
  - e. <Insert manufacturer.>
3. Aluminum: Alloy and temper with not less than the strength and durability properties of **ASTM B 221 (ASTM B 221M)**, alloy 6063-T5.
  4. Finish: [Corrosion-resistant primer compatible with joint compound and finish materials specified] <Insert requirements for Class II anodic finishes and factory-painted, baked-enamel finishes>.

8 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C 475.

B. Joint Tape:

1. **Basis-of-Design Product:** National Gypsum Company; Gold Bond Brand Joint Tape.
2. Interior Gypsum Wallboard: Paper.
3. Exterior Gypsum Soffit Board: Paper.
- ~~4. **Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.**~~
5. Tile Backing Panels: As recommended by panel manufacturer.

C. Joint Compound for Interior Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.

[See "Joint Compound" Article in the Evaluations.](#)

1. Prefilling: At open joints[, **rounded or beveled panel edges,**] and damaged surface areas, use setting-type taping compound.
  - a. **Basis-of-Design Product:** National Gypsum Company; Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, setting type.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use [**setting-type taping compound**] [**drying-type, all-purpose compound**].
  - a. **Basis-of-Design Product:** National Gypsum Company; [**Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, setting type**] [**ProForm Brand ~~Drying-Type~~ Joint Compound, drying type**].
3. Use setting-type compound for installing paper-faced metal trim accessories.
  - a. **Basis-of-Design Product:** National Gypsum Company; Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, setting type.
4. Fill Coat: For second coat, use [**setting-type, sandable topping compound**] [**drying-type, all-purpose compound**].
5. **Basis-of-Design Product:** National Gypsum Company; [**Sta-Smooth Lite**

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**Brand Setting/Sandable-Type Joint Compound, setting/sandable type]**  
**[ProForm Brand All Purpose Drying-Type Joint Compound, drying type]**

6. Finish Coat: For third coat, use [**setting-type, sandable topping compound**] [**drying-type, all-purpose compound**].
    - a. Basis-of-Design Product: National Gypsum Company; [**Sta-Smooth Lite Brand Setting/Sandable-Type Joint Compound, setting/sandable type**] [**ProForm Brand All Purpose Drying-Type Joint Compound, drying type**].
  7. Skim Coat: For final coat of Level 5 finish, use [**setting-type, sandable topping compound**] [**drying-type, all-purpose compound**].
- D. Joint Compound for Exterior Applications:
1. Exterior Gypsum Soffit Board: Use setting-type taping and setting-type, sandable topping compounds.
    - a. Basis-of-Design Products: National Gypsum Company; Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, **setting type** for taping and Sta-Smooth Lite Brand ~~Setting/Sandable-Type~~ Joint Compound, **setting/sandable type** for topping.
  2. Glass-Mat Gypsum Sheathing Board: As recommended by manufacturer.
- E. Joint Compound for Tile Backing Panels:
1. Water-Resistant Gypsum Backing Board: Use setting-type taping and setting-type, sandable topping compounds.
    - a. Basis-of-Design Products: National Gypsum Company; Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, **setting type** for taping and Sta-Smooth Lite Brand ~~Setting/Sandable-Type~~ Joint Compound, **setting/sandable type** for topping.
  2. Glass-Mat, Water-Resistant Backing Panel: As recommended by manufacturer.
  3. Cementitious Backer Units: ~~As recommended by manufacturer~~ Setting-type taping compound.
    - a. Basis-of-Design Product: National Gypsum Company; Sta-Smooth Brand ~~Setting-Type~~ Joint Compound, **setting type**.

9 ACOUSTICAL SEALANT

Delete this Article if acoustical sealant is specified in Division 7 Section "Joint Sealants."

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

- B. Products: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

1. Acoustical Sealant for Exposed and Concealed Joints:
  - a. Pecora Corp.; AC-20 FTR Acoustical and Insulation Sealant.
  - b. United States Gypsum Co.; SHEETROCK Acoustical Sealant.
  - c. <Insert manufacturer and product.>
2. Acoustical Sealant for Concealed Joints:
  - a. Ohio Sealants, Inc.; Pro-Series SC-170 Rubber Base Sound Sealant.
  - b. Pecora Corp.; BA-98.
  - c. Tremco, Inc.; Tremco Acoustical Sealant.
  - d. <Insert manufacturer and product.>
- C. Acoustical Sealant for Exposed and Concealed Joints: Nonsag, paintable, nonstaining, latex sealant complying with ASTM C 834 that effectively reduces airborne sound transmission through perimeter joints and openings in building construction as demonstrated by testing representative assemblies according to ASTM E 90.
- D. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

10 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Laminating Adhesive: Adhesive or joint compound recommended for directly adhering gypsum panels to continuous substrate.
  - 1. **Basis-of-Design Product: National Gypsum Company; [Sta-Smooth Brand Joint Compound, setting type] [ProForm Brand All Purpose Joint Compound, drying type].**
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.

Delete subparagraph below if panels are not attached to cold-formed metal framing specified in Division 5.

- 1. Use screws complying with ASTM C 954 for fastening panels to steel members from **0.033 to 0.112 inch (0.84 to 2.84 mm)** thick.

Delete subparagraph below if no cementitious backer units.

- 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Isolation Strip at Exterior Walls:
  - 1. Asphalt-Saturated Organic Felt: ASTM D 226, Type I (No. 15 asphalt felt), nonperforated.
  - 2. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, **1/8 inch (3.2 mm)** thick, in width to suit steel stud size.
- E. Sound Attenuation Blankets: ASTM C 665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers manufactured from glass, slag wool, or rock wool.
  - 1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- F. Thermal Insulation: As specified in Division 7 Section "Building Insulation."

If desired, delete paragraph above and below and insert requirements for thermal insulation and polyethylene vapor retarder.

- G. Polyethylene Vapor Retarder: As specified in Division 7 Section "Building Insulation."

11 TEXTURE FINISHES

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

Retain above for nonproprietary or below for semiproprietary Specification. Refer to Division 1 Section "Product Requirements."

- B. Products: Subject to compliance with requirements, provide [**one of**] the following:

See Editing Instruction No. 1 in the Evaluations for cautions about naming manufacturers and products.

1. Polystyrene Aggregate Ceiling Finish:
  - a. G-P Gypsum Corp.; GyProc Ceiling Texture/Polystyrene.
  - b. National Gypsum Company; ~~Gold-Bond-Perfect-Spray-Perfect Spray Brand Texture.~~
  - c. United States Gypsum Co.; SHEETROCK Ceiling Spray Texture, QT Polystyrene.
  - d. **<Insert manufacturer and product.>**
2. Aggregate Finish:
  - a. G-P Gypsum Corp.; GyProc Vermiculite Ceiling Texture.
  - b. ~~National Gypsum Company; Spray Quick Brand Texture.~~
  - c. United States Gypsum Co.; SHEETROCK Wall and Ceiling Spray Texture (Aggregated).
  - d. **<Insert manufacturer and product.>**
3. Acoustical Finish:
  - a. International Cellulose Corp.; SonaSpray "fc."
  - b. United States Gypsum Co.; USG Acoustical Plaster Finish.
  - c. **<Insert manufacturer and product.>**

- C. Primer: As recommended by textured finish manufacturer.



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- D. Polystyrene Aggregate Ceiling Finish: Water-based, job-mixed, polystyrene aggregate finish with flame-spread and smoke-developed indices of not more than 25 when tested according to ASTM E 84.
1. Texture: **[Fine] [Medium] [Coarse]**.
  2. **Basis-of-Design Product: National Gypsum Company; Perfect Spray Brand [Fine] [Medium] [Coarse] Spray Texture.**
- E. Aggregate Finish: Water-based, job-mixed, aggregated, drying-type texture finish for spray application.

Correlate texture requirements with products retained or inserted above. G-P Gypsum Corp. product is not available in spatter knock-down finish.

1. Texture: **[Fine] [Medium] [Coarse] <Insert texture>**.
    - a. **Basis-of-Design Product: National Gypsum Company; Spray Quick Brand [Fine] [Medium] [Coarse] Spray Texture.**
- F. **Non-Aggregate Finish: Water-based, job-mixed, aggregated, drying-type texture finish for spray application. [Light-spatter] [Spatter knock-down] <Insert texture>**.
1. **Basis-of-Design Product: National Gypsum Company; Perfect Spray Brand [EM (Easy Mixing)] [HF (Hard Finish)] Spray Texture.**
  2. **Texture: [Light-spatter] [Spatter knock-down] <Insert texture>**.
- G. Acoustical Finish: Water-based, chemical-setting or drying-type, job-mixed texture finish for spray application.
1. Application Thickness: **[1/2 inch (12.7 mm)] <Insert thickness>**.
  2. Fire-Test-Response Characteristics: Indices when tested according to ASTM E 84 as follows:

Example flame-spread and smoke-developed indices below are based on requirements for Class A finishes. Listed products have smaller indices; if desired, revise to suit products selected.

- a. Flame Spread: Less than **[25] <Insert index>**.
  - b. Smoke Developed: Less than **[450] <Insert index>**.
3. NRC: **[0.55] <Insert NRC>** according to ASTM C 423.

### 3- EXECUTION

#### 1 EXAMINATION

- A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames, cast-in anchors, and structural framing, for compliance with requirements and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 2 PREPARATION

Delete this Article if no steel framing.

Delete first paragraph and subparagraph below if only postinstalled anchors are used for installing ceiling systems.

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.
1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.
- B. Coordination with Sprayed Fire-Resistive Materials:

Detail requirements for attaching gypsum board assemblies to construction protected by sprayed fire-resistive materials on Drawings.

1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed-on fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than **24 inches (600 mm)** o.c.
2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of gypsum board assemblies and without reducing the fire-resistive material thickness below that which is required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

3 INSTALLING STEEL FRAMING, GENERAL

ASTM C 840 includes installation requirements not included in ASTM C 754.

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."

Indicate isolation details on Drawings or insert detailed description here. See "Crack Control" Article in the Evaluations.

- C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.

Subparagraphs below are examples only. Retain or revise to suit Project.

- 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
- 2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.

Retain appropriate subparagraphs below and detail requirements on Drawings.

- a. Use deep-leg deflection track where indicated.
- b. Use proprietary deflection track where indicated.
- c. Use proprietary firestop track where indicated.

Detail control and expansion joints on Drawings.

- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

4 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Suspend ceiling hangers from building structure as follows:

1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
4. Secure **[rod]** **[flat]** **[angle]** hangers to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.

Delete inapplicable construction types below.

5. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
6. Do not attach hangers to steel deck tabs.
7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
8. Do not connect or suspend steel framing from ducts, pipes, or conduit.

Example tolerance below is based on ASTM C 636 for acoustical ceilings.

- B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within **[1/8 inch in 12 feet (3 mm in 3.6 m)]** <Insert tolerance> measured lengthwise on each member and transversely between parallel members.

Retain paragraph below for seismic bracing and revise to include specific provisions to suit Project.

- C. Sway-brace suspended steel framing **[with hangers used for support]** <Insert requirements>.

Show framing details for exterior soffits on Drawings.

- D. For exterior soffits, install cross bracing and framing to resist wind uplift.

Delete paragraph below if no wood framing (ceiling joists, beams, studs, etc.).

- E. Screw furring to wood framing.

Furring channels must be wire-tied to supports in most fire-resistance-rated assemblies. Verify requirements of assemblies and revise first paragraph below to suit Project.

- F. Wire-tie [**or clip**] furring channels to supports[, **as required to comply with requirements for assemblies indicated**].
- G. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.

Generally, delete three subparagraphs below and show spacings on Drawings.

1. Hangers: [**48 inches (1219 mm)**] [1200 mm] <Insert spacing> o.c.
  2. Carrying Channels (Main Runners): [**48 inches (1219 mm)**] [1200 mm] <Insert spacing> o.c.
  3. Furring Channels (Furring Members): [**16 inches (406 mm)**] [**24 inches (610 mm)**] [400 mm] [600 mm] <Insert spacing> o.c.
- H. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

## 5 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.

Retain subparagraph below if studs will abut masonry or dissimilar metals at exterior walls.

1. Where studs are installed directly against exterior walls, install [**asphalt-felt**] [**or**] [**foam-gasket**] isolation strip between studs and wall.

Paragraph below is based on recommendation in GA-216 for wood framing. ASTM C 840

requires only that framing and substrates be installed so that after gypsum board has been installed, the finished surface will be an even plane. Delete below if ASTM C 840 requirement is acceptable.

- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than **1/8 inch (3 mm)** from the plane formed by the faces of adjacent framing.
- C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.

Delete subparagraph below if perimeter relief is not required. See "Crack Control" Article in the Evaluations.

- 1. Cut studs **1/2 inch (13 mm)** short of full height to provide perimeter relief.

Retain subparagraph below or revise to suit Project. For complex conditions, include details of closures on Drawings.

- 2. For [**fire-resistance-rated**] [**and**] [**STC-rated**] partitions that extend to the underside of floor/roof slabs and decks or other continuous solid-structure surfaces to obtain ratings, install framing around structural and other members extending below floor/roof slabs and decks, as needed to support gypsum board closures and to make partitions continuous from floor to underside of solid structure.

If retaining subparagraph above with subparagraph below, indicated locations of each on Drawings.

- a. Terminate partition framing at suspended ceilings where indicated.

- D. Install steel studs and furring at the following spacings:

Generally, delete paragraph above and three subparagraphs below and indicate stud spacings on Drawings. ASTM C 754 includes tabulations of maximum framing spacing based on thickness and orientation of gypsum board panels and deflection and lateral loading.

- 1. Single-Layer Construction: [**16 inches (406 mm)**] [**24 inches (610 mm)**] [**400 mm**] [**600 mm**] o.c., unless otherwise indicated.

ASTM C 754 does not include 16-inch (406-mm) o.c. spacing for double-layer partition construction. If multiple layers are used to achieve fire-resistance rating, verify stud spacing requirements of specific assemblies required.

2. Multilayer Construction: [16 inches (406 mm)] [24 inches (610 mm)] [400 mm] [600 mm] o.c., unless otherwise indicated.
  3. Cementitious Backer Units: [16 inches (406 mm)] [400 mm] o.c., unless otherwise indicated.
- E. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
- F. Curved Partitions:

Delete paragraph above and subparagraphs below if no curved partitions.

1. Cut top and bottom track (runners) through leg and web at 2-inch (50-mm) intervals for arc length. In cutting lengths of track, allow for uncut straight lengths of not less than 12 inches (300 mm) at ends of arcs.
  2. Bend track to uniform curve and locate straight lengths so they are tangent to arcs.
  3. Support outside (cut) leg of track by clinching steel sheet strip, 1-inch- (25-mm-) high-by-thickness of track metal, to inside of cut legs using metal lock fasteners.
  4. Begin and end each arc with a stud, and space intermediate studs equally along arcs at stud spacing recommended in writing by gypsum board manufacturer for radii indicated. On straight lengths of not less than 2 studs at ends of arcs, place studs 6 inches (150 mm) o.c.
- G. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.

Usually retain subparagraph below. For heavy doors, 200 to 300 lb (90.72 to 136.08 kg), up to 48 inches (1219 mm) wide, GA-600 recommends using 0.312-inch- (0.79-mm-) thick studs. Design framing for doors over 48 inches (1219 mm) wide, double doors, and extra-heavy doors to meet loading conditions.

1. Install two studs at each jamb, unless otherwise indicated.

Retain subparagraph below if one-piece zinc control joints are required at head.

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2. Install cripple studs at head adjacent to each jamb stud, with a minimum **1/2-inch (13-mm)** clearance from jamb stud to allow for installation of control joint.

Retain subparagraph below if suspended ceilings are not capable of withstanding forces generated by opening and closing doors.

3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.

Delete first paragraph below if no framed openings other than doors, or revise to suit Project. Fully detail framing for large openings on Drawings.

- H. Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.

I. Z-Furring Members:

1. Erect insulation vertically and hold in place with Z-furring members spaced [**24 inches (610 mm)**] [**600 mm**] o.c.
2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced **24 inches (600 mm)** o.c.
3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring channel to web of attached channel. At interior corners, space second member no more than **12 inches (300 mm)** from corner and cut insulation to fit.

Delete subparagraph below if polystyrene insulation board is specified for thermal insulation.

4. Until gypsum board is installed, hold insulation in place with **10-inch (250-mm)** staples fabricated from **0.0625-inch- (1.59-mm-)** diameter, tie wire and inserted through slot in web of member.

Delete below if no separately applied vapor retarder. Do not install behind water-resistant backing board. If vapor retarder is not specified in Division 7, insert installation requirements here.

- J. Polyethylene Vapor Retarder: Install to comply with requirements specified in Division 7 Section "Building Insulation."



6 APPLYING AND FINISHING PANELS, GENERAL

- A. Gypsum Board Application and Finishing Standards: ASTM C 840 and GA-216.
- B. Install sound attenuation blankets before installing gypsum panels, unless blankets are readily installed after panels have been installed on one side.
- C. Install ceiling board panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in the central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- D. Install gypsum panels with face side out. Butt panels together for a light contact at edges and ends with not more than **1/16 inch (1.5 mm)** of open space between panels. Do not force into place.
- E. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite sides of partitions. Do not make joints other than control joints at corners of framed openings.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- G. Attach gypsum panels to framing provided at openings and cutouts.

Delete first paragraph below if gypsum panels are not used over wood framing.

- H. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.
- I. Form control and expansion joints with space between edges of adjoining gypsum panels.
- J. Cover both faces of steel stud partition framing with gypsum panels in concealed spaces (above ceilings, etc.), except in chases braced internally.
  - 1. Unless concealed application is indicated or required for sound, fire, air, or smoke ratings, coverage may be accomplished with scraps of not less than **8 sq. ft. (0.7 sq. m)** in area.
  - 2. Fit gypsum panels around ducts, pipes, and conduits.

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3. Where partitions intersect open concrete coffer, concrete joists, and other structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffer, joists, and other structural members; allow 1/4- to 3/8-inch- (6.4- to 9.5-mm-) wide joints to install sealant.

Detail perimeter isolation on Drawings. See "Crack Control" Article in the Evaluations.

- K. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations, and trim edges with U-bead edge trim where edges of gypsum panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

Retain first paragraph below for wood framing where fire ratings are not required.

- L. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install gypsum panels over wood framing, with floating internal corner construction.
- M. STC-Rated Assemblies: Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through gypsum board assemblies, including sealing partitions above acoustical ceilings.
- N. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.

Below is a requirement of BOCA National Building Code. Retain if required by local code.

1. Space screws a maximum of 12 inches (304.8 mm) o.c. for vertical applications.
- O. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

## 7 PANEL APPLICATION METHODS

- A. Single-Layer Application:

Delete first subparagraph below if no gypsum board ceilings.

1. On ceilings, apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum panels [**vertically (parallel to framing)**] [**horizontally (perpendicular to framing)**], unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
  - a. Stagger abutting end joints not less than one framing member in alternate courses of board.

Usually retain subparagraph below if vertical application of panels is specified.

- b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.

Delete paragraph below if no gypsum board ceilings.

- B. Multilayer Application on Ceilings: Apply gypsum board indicated for base layers before applying base layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints 1 framing member, **16 inches (400 mm)** minimum, from parallel base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly.

Revise paragraph and subparagraph below if wall conditions permit economical use of horizontal application of base layer and face layers are laminated to base layers.

- C. Multilayer Application on Partitions/Walls: Apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over stud or furring member and face-layer joints offset at least one stud or furring member with base-layer joints, unless otherwise indicated or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.
  1. Z-Furring Members: Apply base layer vertically (parallel to framing) and face layer either vertically (parallel to framing) or horizontally (perpendicular to framing) with vertical joints offset at least one furring

member. Locate edge joints of base layer over furring members.

- D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

First option in paragraph below is required for some fire-resistance-rated assemblies.

- E. Multilayer Fastening Methods: [**Fasten base layers and face layers separately to supports with screws**] [**Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners**].

Insert specific requirements for particular substrate in paragraph below.

- F. Laminating to Substrate: Where gypsum panels are indicated as directly adhered to a substrate (other than studs, joists, furring members, or base layer of gypsum board), comply with gypsum board manufacturer's written recommendations and temporarily brace or fasten gypsum panels until fastening adhesive has set.

- G. Curved Partitions:

Delete paragraph above and subparagraphs below if no curved partitions.

1. Install panels horizontally and unbroken, to the extent possible, across curved surface plus **12-inch- (300-mm-)** long straight sections at ends of curves and tangent to them.
  2. Wet gypsum panels on surfaces that will become compressed where curve radius prevents using dry panels. Comply with gypsum board manufacturer's written recommendations for curve radii, wetting methods, stacking panels after wetting, and other preparations that precede installing wetted gypsum panels.
  3. On convex sides of partitions, begin installation at one end of curved surface and fasten gypsum panels to studs as they are wrapped around curve. On concave side, start fastening panels to stud at center of curve and work outward to panel ends. Fasten panels to framing with screws spaced **12 inches (300 mm)** o.c.
  4. For double-layer construction, fasten base layer to studs with screws **16 inches (400 mm)** o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced **12 inches (300 mm)** o.c.
  5. Allow wetted gypsum panels to dry before applying joint treatment.
- H. Exterior Soffits and Ceilings: Apply exterior gypsum soffit board panels perpendicular to supports, with end joints staggered and located over supports.

Delete first subparagraph below or revise if perimeter relief will be provided by trim. If retaining, detail sealant in gap on Drawings to keep insects from entering above ceiling areas.

1. Install with 1/4-inch (6.4-mm) open space where panels abut other construction or structural penetrations.
2. Fasten with corrosion-resistant screws.

I. Tile Backing Panels:

1. Water-Resistant Gypsum Backing Board: Install at showers, tubs, and where indicated. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.
2. ~~Glass-Mat, Water-Resistant Backing Panel: Comply with manufacturer's written installation instructions and install at [showers, tubs, and where indicated] [locations indicated to receive tile]. Install with 1/4-inch (6.4-mm) gap where panels abut other construction or penetrations.~~

Retain first option in subparagraph above or below if use of panels is limited to surfaces subject to frequent wetting. Retain second option if panels are required for all wall-tile substrates, regardless of exposure to wetting.

3. Cementitious Backer Units: ANSI A108.11, at [showers, tubs, and where indicated] [locations indicated to receive tile].

Retain subparagraph below if regular gypsum board is an acceptable substrate in dry locations.

4. Areas Not Subject to Wetting: Install standard gypsum wallboard panels to produce a flat surface except at showers, tubs, and other locations indicated to receive water-resistant panels.

Retain below if tile backing panels abut thinner wallboard in same plane, or vice versa, and detail these conditions on Drawings.

5. Where tile backing panels abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

8 INSTALLING TRIM ACCESSORIES

- A. General: For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

Generally, retain first option in paragraph below and show joints on Drawings to comply with ASTM C 840 requirements for spacing control (expansion) joints.

- B. Control Joints: [**Install control joints at locations indicated on Drawings**] [**Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect**].

## 9 FINISHING GYPSUM BOARD ASSEMBLIES

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.
- B. Prefill open joints[, **rounded or beveled edges,**] and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.

See "Gypsum Board Finish Levels" Article in the Evaluations for a discussion of ASTM C 840 requirements.

- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
  - 1. Level 1: Embed tape at joints in ceiling plenum areas, concealed areas, and where indicated[, **unless a higher level of finish is required for fire-resistance-rated assemblies and sound-rated assemblies**].
  - 2. Level 2: Embed tape and apply separate first coat of joint compound to tape, fasteners, and trim flanges where [**panels are substrate for tile and where indicated**] [**panels are substrate for acoustical tile**] [**indicated**] <**Insert locations**>.

Level 3 is suitable for surfaces receiving medium- or heavy-textured finishes before painting or heavy wallcoverings where lighting conditions are not critical.

- 3. Level 3: Embed tape and apply separate first and fill coats of joint compound to tape, fasteners, and trim flanges [**where indicated**] <**Insert locations**>.

Level 4 is suitable for surfaces receiving light-textured finish wallcoverings and flat paints. It is generally the standard exposed finish.

4. Level 4: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges [**at panel surfaces that will be exposed to view, unless otherwise indicated**] <Insert locations>.

Level 5 is suitable for surfaces receiving gloss and semigloss enamels and surfaces subject to severe lighting. It is considered a high-quality gypsum board finish.

5. Level 5: Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges, and apply skim coat of joint compound over entire surface [**where indicated**] <Insert locations>.

~~E. Glass-Mat Gypsum Sheathing Board: Finish according to manufacturer's written instructions for use as exposed soffit board.~~

~~F. Glass-Mat, Water-Resistant Backing Panels: Finish according to manufacturer's written instructions.~~

- G. Cementitious Backer Units: Finish according to manufacturer's written instructions.

## 10 APPLYING TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture [**matching approved mockup and**] free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture finish manufacturer's written recommendations.

## 11 FIELD QUALITY CONTROL

Delete this Article if no gypsum board ceiling areas or if above-ceiling observation is not required for Project.

- A. Above-Ceiling Observation: Before Contractor installs gypsum board ceilings, Architect will conduct an above-ceiling observation and report deficiencies in the Work observed. Do not proceed with installation of gypsum board to ceiling support framing until deficiencies have been corrected.
1. Notify Architect [**seven**] <Insert number> days in advance of date and time when Project, or part of Project, will be ready for above-ceiling observation.
  2. Before notifying Architect, complete the following in areas to receive gypsum board ceilings:

Edit list below to suit Project.

- a. Installation of [**80**] <Insert number> percent of lighting fixtures, powered for operation.
- b. Installation, insulation, and leak and pressure testing of water piping systems.
- c. Installation of air-duct systems.
- d. Installation of air devices.
- e. Installation of mechanical system control-air tubing.
- f. Installation of ceiling support framing.
- g. <Insert requirements.>

END OF SECTION 09260