

## SECTION 092900 - GYPSUM BOARD

### PART 1 - GENERAL

#### 1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.
2. Tile backing panels.

B. Related Requirements:

1. Section 092216 "Non-Structural Metal Framing" for nonstructural steel framing and suspension systems that support gypsum board panels.
2. Section 093013 "Ceramic Tiling" for cementitious backer units installed as substrates for ceramic tile.

#### 1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings:

1. Locations and installation of control and expansion joints, including plans, elevations, sections, and attachment details.

#### 1.3 MOCKUPS

A. Build mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and to set quality standards for materials and execution.

1. Build mockups for the following:

- a. Each level of gypsum board finish required for use in exposed locations.
- b. Each texture finish required.
2. Apply or install final decoration required, including painting and wallcoverings, on exposed surfaces for review of mockups.
3. Simulate finished lighting conditions for review of mockups.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.4 DELIVERY, STORAGE, AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

#### 1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or manufacturer's written instructions, whichever are more stringent.
- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, or mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

### PART 2 - PRODUCTS

#### 2.1 SOURCE LIMITATIONS

- A. Obtain each type of gypsum panel and joint finishing material from single source with resources to provide products of consistent quality in appearance and physical properties.

#### 2.2 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings in accordance with ASTM E119; tested by a qualified testing agency.
- B. STC-Rated Assemblies: For STC-rated assemblies, provide materials and construction identical to those tested in assembly indicated on Drawings in accordance with ASTM E90 and classified in accordance with ASTM E413; tested by a qualified testing agency.

#### 2.3 GYPSUM BOARD, GENERAL

- A. Size: Provide panel products in maximum lengths and widths available that will minimize joints in each area and that correspond with support system specified or indicated on Drawings.

## 2.4 INTERIOR GYPSUM BOARD

### A. Gypsum Wallboard: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. American Gypsum
  - b. CertainTeed; SAINT-GOBAIN
  - c. Georgia-Pacific Gypsum LLC
  - d. USG Corporation
2. Thickness: As indicated on Drawings.
3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

### B. Gypsum Board, Type X: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. American Gypsum
  - b. CertainTeed; SAINT-GOBAIN
  - c. Georgia-Pacific Gypsum LLC
  - d. USG Corporation
2. Thickness: As indicated on Drawings.
3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.

### C. Gypsum Board, Type C: ASTM C1396/C1396M; manufactured to have increased fire-resistive capability.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. American Gypsum
  - b. CertainTeed; SAINT-GOBAIN
  - c. Georgia-Pacific Gypsum LLC
  - d. USG Corporation
2. Thickness: As required by fire-resistance-rated assembly indicated on Drawings.
3. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.
4. Long Edges: Tapered.

### D. Gypsum Ceiling Board: ASTM C1396/C1396M.

1. Manufacturers: Subject to compliance with requirements, available manufacturers

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

- a. American Gypsum
    - b. CertainTeed; SAINT-GOBAIN
    - c. Georgia-Pacific Gypsum LLC
    - d. USG Corporation
  2. Thickness: As indicated on Drawings.
  3. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
- E. Mold-Resistant Gypsum Board: ASTM C1396/C1396M; manufactured with moisture- and mold-resistant core and paper surfaces.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. American Gypsum
    - b. CertainTeed; SAINT-GOBAIN
    - c. Georgia-Pacific Gypsum LLC
    - d. USG Corporation
  2. Core: 1/2-inch, regular type.
  3. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.
  4. Long Edges: Tapered.
- F. Glass-Mat Interior Gypsum Board: ASTM C1658/C1658M; manufactured with fiberglass mat laminated to both sides and designed for interior use.
1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
    - a. CertainTeed; SAINT-GOBAIN
    - b. Georgia-Pacific Gypsum LLC
    - c. USG Corporation
  2. Core: As indicated on Drawings.
  3. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.
  4. Long Edges: Tapered.

## 2.5 TILE BACKING PANELS

- A. Fiber-Mat Reinforced Cementitious Backing Units: ASTM C1325, with manufacturer's standard edges.
1. Manufacturers: Subject to compliance with requirements, available manufacturers

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

- a. USG Corporation
2. Mold Resistance: ASTM D3273, score of 10 as rated in accordance with ASTM D3274.

## 2.6 TRIM ACCESSORIES

### A. Interior Trim: ASTM C1047.

1. Material: Galvanized-steel sheet or aluminum-coated steel sheet or rolled zinc.
2. Shapes:
  - a. Cornerbead.
  - b. Bullnose bead.
  - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
  - d. L-Bead: L-shaped; exposed long flange receives joint compound.
  - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
  - f. Expansion (control) joint.
  - g. Curved-Edge Cornerbead: With notched or flexible flanges.

## 2.7 JOINT TREATMENT MATERIALS

### A. General: Comply with ASTM C475/C475M requirements.

1. Mold-Resistant Joint Compound: Use mold-resistant formulations with mold-resistant panel products.

### B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.
3. Tile Backing Panels: As recommended in writing by panel manufacturer.

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

1. Prefilling: At open joints, rounded or beveled panel edges, and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping compound.
  - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use setting-type, sandable topping compound.
4. Finish Coat: For third coat, use setting-type, sandable topping compound.
5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound.

D. Joint Compound for Exterior Applications:

1. Exterior Gypsum Soffit Board: Use setting-type taping compound and setting-type, sandable topping compound.
2. Glass-Mat Gypsum Sheathing Board: As recommended in writing by sheathing board manufacturer.

E. Joint Compound for Tile Backing Panels:

1. Glass-Mat, Water-Resistant Backing Panel: As recommended in writing by backing panel manufacturer.
2. Cementitious Backer Units: As recommended in writing by backer unit manufacturer.
3. Water-Resistant Gypsum Backing Board: Use setting-type taping compound and setting-type, sandable topping compound.

## 2.8 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Laminating Adhesive: Adhesive or joint compound recommended in writing by manufacturer for directly adhering gypsum panels to continuous substrate.
- C. Steel Drill Screws: ASTM C1002 unless otherwise specified or indicated on Drawings.
1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
  2. For fastening cementitious backer units, use screws of type and size recommended in writing by panel manufacturer.
- D. Sound-Attenuation Blankets: ASTM C665, Type I (blankets without membrane facing) produced by combining thermosetting resins with mineral fibers as follows:
1. Non-Fire-Resistance-Rated Assemblies: Glass or slag or rock wool.
  2. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.
- E. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."
- F. Primer: As recommended in writing by textured finish manufacturer.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine areas and substrates including welded hollow-metal frames and support framing, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.

- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### 3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840 requirements.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. 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.
- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Cover both faces of support 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. in area.
  - 2. Fit gypsum panels around ducts, pipes, and conduits.
  - 3. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- G. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- H. Attachment to Steel Framing: Attach panels so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- I. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.
- J. STC-Rated Assemblies: Seal construction at perimeters, behind control 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 C919 requirements and with manufacturer's written instructions for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

### 3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

#### A. Install interior gypsum board in the following locations:

1. Gypsum Wallboard: As indicated on Drawings.
2. Gypsum Board, Type X: Where required for fire-resistance-rated assembly.
3. Lightweight Gypsum Board, Type X: .
4. Gypsum Ceiling Board: As indicated on Drawings.
5. Foil-Backed Gypsum Board: As indicated on Drawings.
6. Abuse-Resistant Gypsum Board: As indicated on Drawings.
7. Impact-Resistant Gypsum Board: As indicated on Drawings.
8. Mold-Resistant Gypsum Board: As indicated on Drawings.
9. Glass-Mat Interior Gypsum Board: As indicated on Drawings.

#### B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated on Drawings.
2. On partitions/walls, apply gypsum panels vertically (parallel to framing) unless otherwise specified or indicated on Drawings 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 panels.
  - b. At stairwells and other high walls, install panels horizontally unless otherwise indicated on Drawings or required by fire-resistance-rated assembly.
3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

#### C. Multilayer Application:

1. On ceilings, apply gypsum board indicated for base layers before applying face layers on walls/partitions; apply face layers in same sequence. Apply base layers at right angles to framing members and offset face-layer joints one framing member, 16 inches minimum, from parallel base-layer joints, unless otherwise indicated on Drawings or required by fire-resistance-rated assembly.
2. On partitions/walls, apply gypsum board indicated for base layers and face layers vertically (parallel to framing) with joints of base layers located over studs or furring members and face-layer joints offset at least one stud or furring member with base-layer joints unless otherwise indicated on Drawings or required by fire-resistance-rated assembly. Stagger joints on opposite sides of partitions.



3. On Z-shaped 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.
  4. Fastening Methods: Fasten base layers and face layers separately to supports with screws.
- D. 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 instructions and temporarily brace or fasten gypsum panels until fastening adhesive has set.

### 3.4 INSTALLATION OF TILE BACKING PANELS

- A. Fiber-Mat Reinforced Cementitious Backing Panels: Comply with manufacturer's written installation instructions and install at showers, tubs, and where indicated on Drawings. Install with 1/4-inch gap where panels abut other construction or penetrations.
- B. Fiber-Mat Reinforced Cementitious Backing Board: Install where indicated with 1/4-inch gap where panels abut other construction or penetrations.
- C. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

### 3.5 APPLICATION OF JOINT TREATMENT MATERIALS

- A. Finishing Panel Products: Treat joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare panel 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 panel joints, except for trim products specifically indicated as not intended to receive tape.
- D. Interior Gypsum Board: Finish panels to levels indicated below and in accordance with ASTM C840:
  1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
  2. Level 2: Panels that are substrate for tile.
  3. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
    - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."
  4. Level 5: Where indicated on Drawings.

- a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

- E. Fiber-Mat Reinforced Cementitious Backing Panels: Finish in accordance with manufacturer's written instructions.

### 3.6 PROTECTION

- A. Protect adjacent surfaces from joint compound and promptly remove from floors and other non-gypsum board surfaces. Repair surfaces stained, marred, or otherwise damaged during gypsum board installation and finishing.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
  - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
  - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900