

SECTION 09 29 00 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
  - 1. Interior gypsum board.
  - 2. Tile backing panels.
- B. Related Requirements:
  - 1. Division 04 Section "Unit Masonry" for installation at masonry walls.
  - 2. Division 06 Section "Sheathing" for gypsum sheathing for exterior walls.
  - 3. Division 07 Section "Joint Stopping."
  - 4. Division 09 Section "Non-Structural Metal Framing" for non-structural framing and suspension systems that support gypsum board panels.
  - 5. Division 09 Section "Tiling" for cementitious backer units installed as substrates for ceramic tile.
  - 6. Division 09 Section "Painting and Finishing."

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For the following products:
  - 1. Trim Accessories: Full-size Sample in 12-inch- long length for each trim accessory indicated.

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 C 840 requirements or gypsum board manufacturer's written recommendations, 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, those that are moisture damaged, and those that are 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 PERFORMANCE REQUIREMENTS

- A. Fire-Resistance-Rated Assemblies: For fire-resistance-rated assemblies, provide materials and construction identical to those tested in assembly indicated according to ASTM E 119 by an independent testing agency.
- B. Moisture- and Mold-Resistant Assemblies: Provide and install moisture- and mold-resistant glass-mat gypsum wallboard products with moisture-resistant surfaces complying with ASTM C 1396 and ASTM C 1658 where indicated on Drawings and in all locations which might be subject to moisture exposure during construction.

### 2.2 INTERIOR GYPSUM BOARD

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following manufacturers for the following products listed:
- B. Gypsum Wallboard: ASTM C 1396/C 1396M.
  1. Thickness: 5/8 inch unless indicated otherwise.
  2. Long Edges: Tapered and featured (rounded or beveled) for prefilling.
  3. Fire Rated: Type X where required for fire rating.
  4. Products:
    - a. Georgia Pacific Gypsum; "Fireguard Gypsum Board".
    - b. American Gypsum; "FireBloc Type X Gypsum Wallboard."
    - c. CertainTeed Corporation; "Type X Gypsum Board."
    - d. National Gypsum Company; "Gold Bond BRAND Fire-Shield Gypsum Board."
    - e. USG Corporation; "SHEETROCK Brand FIRECODE Core Gypsum Panels."
  5. Locations: Walls, soffits, etc., not noted to be another gypsum board product elsewhere in this section or on the Drawings.
- C. Flexible Gypsum Board: ASTM C 1396/C 1396M. Manufactured to bend to fit radii and to be more flexible than standard regular-type gypsum board of same thickness.
  1. Thickness: 1/4 inch.
  2. Long Edges: Tapered.
  3. Products:
    - a. Georgia Pacific Gypsum; "FlexRoc Gypsum Board".
    - b. CertainTeed Corporation; "1/4" FLEX Gypsum Board."
    - c. National Gypsum Company; Gold Bond BRAND High Flex Gypsum Board."
    - d. USG Corporation; "SHEETROCK Brand 1/4" Flexible Gypsum Panels."
  4. Locations: Curved surfaces indicated to be gypsum board.

- D. Gypsum Ceiling Board: ASTM C 1396/C 1396M, Sag-resistant.
1. Thickness: 1/2 inch, unless indicated otherwise.
  2. Long Edges: Tapered.
  3. Products:
    - a. Georgia Pacific Gypsum; "Tough Rock CD Ceiling Board".
    - b. American Gypsum; "Interior Ceiling Board."
    - c. CertainTeed Corporation; "Interior Ceiling Gypsum Board."
    - d. National Gypsum Company; "Gold Bond BRAND High Strength Ceiling Gypsum Board."
    - e. USG Corporation; "SHEETROCK Brand Interior Gypsum Ceiling Board."
  4. Locations: Ceilings indicated to be gypsum board.
- E. Abuse-Resistant Gypsum Board: ASTM C 1396, C 1629, D 4977, D 5420, and E 695.
1. Thickness: 5/8 inch, unless noted otherwise
  2. Paper Face: None.
  3. Long Edges: Tapered.
  4. Fire Rated: Type X where required for fire rating.
  5. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
  6. Products:
    - a. CertainTeed Corporation; Extreme Abuse Resistant Drywall with M2Tech."
    - b. Georgia Pacific Gypsum; "Tough Rock Abuse-Guard."
    - c. National Gypsum Company; "Gold Bond BRAND Hi-Abuse XP Gypsum Board."
    - d. USG Corporation; "SHEETROCK Brand Mold Tough AR."
  7. Locations: All walls, soffits, etc., in classrooms small group rooms, corridors, administration offices, and general use spaces such as library, cafeteria, etc. and as indicated on drawings.
- F. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
1. Thickness: 1/2 inch, regular type, 5/8 inch, Type X, where required for fire-resistance rating.
  2. Long Edges: Tapered.
  3. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
  4. Products:
    - a. Georgia Pacific Gypsum; "Tough Rock Fireguard Mold Guard".
    - b. American Gypsum; "M-Bloc with Mold and Moisture Resistance."
    - c. CertainTeed Corporation; "M2Tech Moisture and Mold Resistant Gypsum Board."
    - d. National Gypsum Company; "Gold Bond BRAND XP Gypsum Board."
    - e. USG Corporation; "SHEETROCK Brand Mold Tough Gypsum Panels."
  5. Locations: Toilet Rooms, Showers, Sinks, Janitor, and as indicated on drawings.
- G. Glass-Mat, Water-Resistant Tile Backing Board: ASTM C 1178/C 1178M, with manufacturer's standard edges.
1. Thickness: 1/2 inch regular type; 5/8 inch Type X where required for fire resistance rating.
  2. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
  3. Products:
    - a. Georgia-Pacific Gypsum LLC; "DensShield Tile Backer."

- b. American Gypsum; "Aqua Block Gypsum Wallboard."
  - c. CertainTeed Corporation; "Glas Roc Tile Backer."
  - d. National Gypsum Company; "Gold Bond BRAND e<sup>2</sup> XP Tile Backer."
  - e. USG Corporation; "Aqua-Tough Interior Panels."
4. Locations: Toilet Rooms and other spaces indicated to have ceramic tile on gypsum board.

## 2.3 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.
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.

## 2.4 JOINT TREATMENT MATERIALS

### A. General: Comply with ASTM C 475/C 475M.

### 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 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 drying-type, all-purpose compound.
  - a. Use setting-type compound for installing paper-faced metal trim accessories.
3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.
5. Skim Coat: For final coat of Level 5 finish, use high-build interior coating product designed for application by airless sprayer and to be used instead of skim coat to produce Level 5 finish.

### D. Joint Compound for Tile Backing Panels:

1. Glass-Mat, Water-Resistant Backing Panel: As recommended by backing panel manufacturer.

## 2.5 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.
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
- D. Sound-Attenuation Blankets (acoustical insulation): ASTM C665, 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.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

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

- A. Comply with ASTM C 840.
- 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, except floors. 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. Install sound (acoustical) attenuation blankets before installing gypsum panels unless blankets are readily installed after panels have been installed on one side.

### 3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. 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.
  2. On partitions/walls, apply gypsum panels vertically (parallel 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 panels.
  3. On Z-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.
- B. 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.
- C. Curved Surfaces:
  1. Install panels horizontally (perpendicular to supports) and unbroken, to extent possible, across curved surface plus 12-inch- long straight sections at ends of curves and tangent to them.
  2. For double-layer construction, fasten base layer to studs with screws 16 inches o.c. Center gypsum board face layer over joints in base layer, and fasten to studs with screws spaced 12 inches o.c.

### 3.4 INSTALLATION OF TILE BACKING PANELS

- A. Glass-Mat, Water-Resistant Tile Backing Panels: Comply with manufacturer's written installation instructions and install at locations indicated to receive tile. Install with 1/4-inch gap where panels abut other construction or penetrations.
- B. Where tile backing panels abut other types of panels in same plane, shim surfaces to produce a uniform plane across panel surfaces.

### 3.5 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.
- B. Control Joints: Install control joints according to ASTM C 840 and in specific locations approved by Architect for visual effect.
- C. Interior Trim: Install in the following locations:
  - 1. Cornerbead: Use at outside corners.
  - 2. Bullnose Bead: Use where indicated.
  - 3. LC-Bead: Use where gypsum panels are tightly abutted to other construction and back flange can be attached to framing or supporting substrate.
  - 4. L-Bead: Use where edge trim can only be installed after gypsum panels are installed.
  - 5. U-Bead: Use at exposed panel edges and where indicated.
  - 6. Curved-Edge Cornerbead: Use at curved openings.

### 3.6 FINISHING GYPSUM BOARD

- 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 for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C 840:
  - 1. Level 1: Ceiling plenum areas, concealed areas, and where indicated.
  - 2. Level 2: Panels that are substrate for tile.
  - 3. Level 3: For concealed areas of fire-resistive-rated assemblies, sound rated assemblies, areas receiving heavy-textured finish.
  - 4. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.
    - a. Primer and its application to surfaces are specified in Division 09 Section "Painting & Finishing."
  - 5. Level 5: Where indicated on Drawings.
    - a. Primer and its application to surfaces are specified in Division 09 Section "Painting & Finishing."
    - b. On moisture- and mold-resistant gypsum board scheduled to be painted.
- E. Glass-Mat Faced Panels: Finish according to manufacturer's written instructions.

### 3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.

- 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.

END OF SECTION 09 29 00