

## **SECTION 09 29 00 - GYPSUM BOARD**

### **PART 1 - GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes:
  - 1. Interior gypsum wallboard.
- B. Related Sections:
  - 1. Section 09 21 16 - Non-Structural Metal Framing.

#### **1.2 SUBMITTALS**

- A. Product Data: For each type of gypsum product, joint, finish and accessories indicated.

#### **1.3 QUALITY ASSURANCE**

- A. Source Limitations: Provide products manufactured within the United States from materials free of sulfur, formaldehyde or other deleterious chemicals. Natural gypsum ore shall be mined in North America. Synthetic (Byproduct) gypsum shall be pure calcium sulfate from domestic sources.
- B. Comply with applicable specification recommendations of GA-216 and GA-600 as published by the Gypsum Association.

#### **1.4 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.
- C. Handle gypsum board to prevent damage to edges, ends, and surfaces. Do not bend or damage metal corner beads and trim.

## **1.5 PROJECT 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 interior products 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 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. Type X: ASTM C 1396
  - 1. Thickness: 5/8 inch.
  - 2. Long Edges: Tapered.
  - 3. Acceptable Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Gypsum Co.
    - b. Certaineed.
    - c. Georgia Pacific Gypsum Corp.
    - d. National Gypsum Company.
    - e. Pabco Gypsum
    - f. United States Gypsum Co.

### **2.2 TRIM ACCESSORIES**

- A. Trim: ASTM C 1047.
  - 1. Material: Galvanized steel sheet
  - 2. Cornerbead:
    - a. Shapes: Square.
    - b. Use at outside corners, unless otherwise indicated.
  - 3. LC-Bead (J-Bead): For protecting exposed edges of wallboard where back flange can be used. use at exposed panel edges unless otherwise indicated
  - 4. L-Bead: For protecting exposed edges of wallboard where back flange cannot be used; use where indicated.
  - 5. J-Stop: For protecting edges of wallboard that does not require finishing.
  - 6. Control Joint: One-piece trim formed with V-shaped slot, with removable strip covering slot opening.
    - a. Purpose: For conditions requiring expansion and contraction stresses of large areas of wallboard to be relieved.
  - 7. Other Trim or Special Shapes: Product as required by condition.
  - 8. Acceptable Manufacturers:
    - a. Dietrich Industries, Inc.; Unimast.
    - b. Fry Reglet Architectural Metals.
    - c. Marino Ware; Division of Ware Industries.
    - d. Niles Building Products Co.

- e. Superior Metal Trim; Division of Delta Star, Inc.
- f. USG

## 2.3 JOINT TREATMENT MATERIALS

- A. Joint Materials: Comply with ASTM C 475
  - 1. Joint Tape:
    - a. Interior Gypsum Wallboard: Paper.
- B. Joint Compound:
  - 1. Gypsum Wallboard: For each coat use formulation that is compatible with other compounds applied on previous or for successive coats.
    - a. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
    - b. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use setting-type taping or drying-type, all-purpose compound.
      - 1) Use setting-type compound for installing paper-faced metal trim accessories.
    - c. Fill Coat: For second coat, use setting-type, sandable topping or drying-type, all-purpose compound.
    - d. Finish Coat: For third coat, use setting-type, sandable topping or drying-type, all-purpose compound.
    - e. 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.

## 2.4 FINISHES

- A. Primer: As recommended by textured finish manufacturer.
- B. Drywall Primer: White latex drywall primer formulated with high binder solids, applied undiluted, applied to gypsum board surfaces prior to the application of texture materials.
  - 1. Acceptable Product: Sheetrock Brand First Coat as manufactured by USG or approved equal.
  - 2. Acceptable Product: As recommended by textured finish manufacturer.
  - 3. Drywall primer which is applied to the finished surface of the work specified in this section is specified in Section 09 91 00 - Paint and Coatings.

## 2.5 ACCESSORIES

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
  - 1. Steel framing: Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
  - 2. Tile Backer Boards: Use screws of type and size recommended by panel manufacturer.
- C. Provide batt insulation per drawings.

## PART 3 - EXECUTION

### 3.1 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.

- 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 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 gypsum 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. Attach gypsum panels to framing provided at openings and cutouts.
- F. Form control and expansion joints with space between edges of adjoining gypsum panels.
- G. Attachment to Steel Framing: Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- H. 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.
- I. Fit gypsum panels around ducts, pipes, and conduits.
- J. Where partitions intersect structural members projecting below underside of floor/roof slabs and decks, cut gypsum panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch- wide joints to install sealant.
- K. Isolate perimeter of non-load-bearing gypsum board partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- 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.
- L. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
  - 1. Space screws a maximum of 12 inches o.c. for vertical applications.
- M. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.
- N. 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 C 919 and with manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

### 3.3 PANEL APPLICATION METHODS

- A. Single-Layer Application:
  - 1. Ceilings:
    - a. Install 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 panel's not less than one framing member.
    - b. Apply gypsum panels before wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
  - 2. Partitions/Walls: Apply gypsum panels vertically (parallel to framing), to minimize end joints.
    - a. Stagger abutting end joints not less than one framing member in alternate courses of board.
    - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.
  - 3. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.

### 3.4 INSTALLATION - 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 at locations indicated on Drawings, as recommended by board manufacturer's recommendations and in accordance with ASTM C840.
  - 1. Spaced not more than 30 feet in either direction for uninterrupted straight planes of ceilings, walls and partitions:
- C. Reveals: Install in locations indicated on Drawings after gypsum board is installed in accordance with reveal manufacturer's instructions.

### 3.5 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.
- D. Provide finish of gypsum board surfaces in accordance with the Gypsum Association "Recommended Specification: Levels of Gypsum Board Finish" as follows:
  - 1. Level 0 (Temporary Construction): No taping, finishing, or accessories required.
  - 2. Level 1 (Fire Taping at plenum areas above ceiling, in attics, in areas where the assembly will be concealed or in building service corridors and other areas not normally open to public view):
    - a. Description:
      - 1) Joints and interior angles shall have tape embedded in joint compound.
      - 2) Surface shall be free of excess joint compound.
      - 3) Tool marks and ridges are acceptable.
  - 3. Level 2 (Areas where surface appearance is not of primary concern):
    - a. Joints and interior angles shall have tape embedded in joint compound and wiped with a joint knife leaving a thin coating joint compound over joints and interior

- angles.
  - b. Fastener heads and accessories shall be covered with a coat of joint compound
  - c. Surface shall be free of excess joint compound.
  - d. Tool marks and ridges are acceptable.
  - e. Joint compound applied over the body of the tape at the time of tape embedment shall be considered a separate coat of joint compound and shall satisfy the conditions of this level.
- 4. Level 3:
  - a. Locations: Appearance areas to receive heavy or medium texture (spray or hand applied finishes before final painting, or where heavy grade wallcoverings are to be applied as final decoration. This level of finish is not to be used where smooth painted surface or light to medium wallcoverings are to be applied.).
  - b. Restrictions: This level of finish is not to be used where smooth painted surface or light to medium wallcoverings are to be applied.
  - c. Description:
    - 1) Joints and interior angles shall have tape embedded in joint compound and one additional coat of joint compound applied over joints and interior angles.
    - 2) Fastener heads and accessories shall be covered with 2 separate coats of joint compound.
    - 3) Joint compound shall be smooth and free of tool marks and ridges.
    - 4) Surface to be coated with Drywall Primer as specified herein prior to application of texture.
    - 5) Untextured surfaces to be coated with Drywall Primer prior to application of final finishes as specified in Section - Painting.
- 5. Level 4:
  - a. Locations: Public appearance areas to receive egg-shell or flat paints, light texture, or where backed wallcoverings are to be applied.
  - b. Restrictions: This level of finish shall not be used where gloss, semi-gloss and enamel paints are applied. Joints and fasteners must be adequately concealed if the wallcovering material is lightweight, contains limited pattern, has a gloss finish, or any combination of these finishes is present. Unbacked vinyl wallcoverings are not recommended over this level of finish.
  - c. Description:
    - 1) Joints and interior angles shall have tape embedded in joint compound and 2 separate coats of joint compound applied over flat joints and one separate coat of joint compound applied over interior angles.
    - 2) Fastener heads and accessories shall be covered with 3 separate coats of joint compound.
    - 3) Joint compound shall be smooth and free of tool marks and ridges.
    - 4) Surface to be coated with Drywall Primer as specified herein prior to application of texture.
    - 5) Untextured surfaces to be coated with Drywall Primer prior to application of final finishes as specified in Section 09 91 00 – Paint and Coatings.
- 6. Level 5:
  - a. Locations:
    - 1) Critical appearance areas to receive gloss, semi-gloss, or enamel finishes.
    - 2) Areas where severe lighting conditions occur.
    - 3) Walls subject to raking light (natural or artificial).
    - 4) Critical appearance areas to receive dark tone paints.
    - 5) Walls to receive shiny or lightweight wallpaper, not suitable over a Level 4 finish.
    - 6) Full extent of horizontal ceiling surfaces above light coves
  - b. Description:
    - 1) Joints and interior angles shall have tape embedded in joint compound and 2 separate coats of joint compound applied over flat joints and one separate coat applied over interior angles.

- 2) A thin skim coat of joint compound, or a material manufactured especially for this purpose, shall be applied to the entire surface to fill imperfections in the joint work, smooth the paper texture and provide a uniform surface for decorating. Excess compound shall be immediately sheared off, leaving a film of skim coating compound completely covering the paper.
  - 3) The surface shall be smooth and free of tool marks and ridges.
  - 4) Surface to be coated with Drywall Primer as specified herein prior to application of texture.
  - 5) Untextured surfaces to be coated with Drywall Primer prior to application of final finishes as specified in Section 09 91 00 - Paint and Coatings.
- E. Tile Backing Panels: Apply skim coat of tile setting material on all joints and corners that are to receive tile. Apply sealant or seal penetrations and abutments to dissimilar materials.

### **3.6 APPLYING 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.

### **3.7 PROTECTION**

- A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- B. 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 09 29 00