

**SECTION 09260  
GYPSUM BOARD SYSTEMS**

**PART 1 GENERAL**

**1.1 SUMMARY**

- A. Section Includes:
  - 1. Gypsum board panels
  - 2. Acoustical sealant in gypsum board systems.
  - 3. Metal framing
- B. Related Sections:
  - 1. Section 07210 - Building Insulation: Thermal insulation.
  - 2. Section 07920 - Joint Sealers: Other sealants.
  - 3. Section 08110 - Hollow Metal Doors and Frames.
  - 4. Section 09111 – Non-Load Bearing Steel Framing
  - 5. Section 09900 - Painting.

**1.2 DEFINITIONS**

- A. Gypsum Board Terminology: Refer to ASTM C11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

**1.3 SUBMITTALS**

- A. Product Data: For each product s
- B. Submit recommended specifications and requirements of gypsum board manufacturer including control joint placement location at walls and ceilings.

**1.4 QUALITY ASSURANCE**

- 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.
  - 1. Fire-Resistance-Rated Assemblies: Indicated by design designations from UL's "Fire Resistance Directory." GA-600, "Fire Resistance Design Manual."
- 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.
  - 1. STC-Rated Assemblies: Indicated by design designations from GA-600, "Fire Resistance Design Manual."
- C. Keep copy of GA 216 and Levels of Gypsum Board Finish in field office for duration of project.

**1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver drywall system components and materials in sealed containers and bundles, fully identified with manufacturer's name, brand, type and grade; store in dry, well ventilated space, protected from weather, under cover and off ground.
- B. Stack gypsum panels flat to prevent sagging.

## 1.6 PROJECT CONDITIONS

- A. Environmental Requirements: Comply with requirements of referenced gypsum board application standards and recommendations of gypsum board manufacturer, for environmental conditions before, during and after application of gypsum board.
- B. Cold Weather Protection: When ambient outdoor temperatures are below 55 degrees F maintain continuous, uniform, comfortable building working temperatures of not less than 55 degrees F for minimum period of 48 hours prior to, during and following application of gypsum board and joint treatment materials or bonding of adhesives.
- C. Ventilation: Ventilate building spaces as required to remove water in excess of that required for drying of joint treatment material immediately after its application. Avoid drafts during dry, hot weather to prevent too rapid drying.
- D. Control Joints: Provide control joints located not over 30 feet on center, regardless if control joints are indicated on drawings or not. Prior to commencing gypsum board work, verify location of control joints with Architect.

## PART 2 PRODUCTS

### 2.1 GYPSUM PANEL PRODUCTS

- A. Provide gypsum panel materials in accordance with recommendations of GA 216.
- B. Gypsum Wallboard: (GYP BD)
  - 1. Acceptable Manufacturer's:
    - a. United States Gypsum.
    - b. National Gypsum Company; Gold Bond Building Products.
    - c. Georgia-Pacific.
  - 2. Gypsum Wall Board: ASTM C 36
    - a. Fire-rated Board (GYP BD-1): 5/8 inch thickness.
    - b. Fire-rated Water-resistant Board (GYP BD-2): 5/8 inch thick, type "X", fire rated gypsum wallboard with water resistant paper face.
      - 1) Provide water-resistant gypsum board as required by local building code and as indicated.

### 2.2 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C 475.
- B. Joint Tape:
  - 1. Interior Gypsum Wallboard: Paper.
  - 2. 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.
  - 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 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 setting-type, sandable topping compound .
- D. Joint Compound for Tile Backing Panels:
  - 1. Water-Resistant Gypsum Backing Board: Use setting-type taping and setting-type, sandable topping compounds.

## **2.3 ACOUSTICAL SEALANT**

- A. Products: Subject to compliance with requirements, provide one of the following:
  - 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.
  - 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.
- B. 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.
- C. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.

## **2.4 METAL FURRING FOR FRAMED ASSEMBLIES**

- A. Hat-Shaped, Rigid Furring Channels (MET FURG-1): ASTM C 645.
  - 1. Minimum Base Metal Thickness: 0.0312 inch.
  - 2. Depth: 7/8 inch.
- B. Z-Shaped Furring (MET FURG-2): With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8 inch
  - 1. Minimum Bare-Metal Thickness: 0.0179 inch.
  - 2. Depth: As indicated on Drawings.

## **2.5 ACCESSORIES**

- A. Fasteners and Anchorages: GA 216, USG Brand screws, type and size as recommended by wallboard manufacturer.
- B. Trim Accessories:
  - 1. Product:
    - a. USG: Dur-A-Bead and Perf-A-Tape corner reinforcement.
    - b. USG #200-B "L" metal trim.
- C. Control Joints: USG Control Joint No. 093.
- D. Joint Treatment: USG Perf-A-Tape joint system.
- E. Adhesive: USG Durabond, as recommended by wallboard manufacturer for wood framing.
- F. Laminating Adhesive: Joint compound or adhesive as recommended by wallboard manufacturer for laminating gypsum board face layer to gypsum board base layer.
- G. Joint Sealant: As specified in Section 07920 - Joint Sealers.

## **PART 3 EXECUTION**

### **3.1 INSTALLATION – GENERAL**

- A. Installation Standard: ASTM C 754, except comply with framing sizes and spacing indicated.
  - 1. Gypsum Board Assemblies: Also comply with requirements in ASTM C 840 that apply to framing installation.

- B. Direct Furring Attachment to Other Wall Assemblies:
  - 1. Metal Framing:
    - a. Screw furring system to metal framing based on wall type
  - 2. Concrete or Masonry:
    - a. Attach to concrete or masonry with screws designed for masonry attachment, or powder-driven fasteners spaced **24 inches** o.c.
  - 3. Installation Tolerance: Install each framing member so fastening surfaces vary not more than **1/8 inch** from the plane formed by faces of adjacent framing.

### 3.2 GYPSUM BOARD INSTALLATION

- A. Install and finish gypsum board and accessories in accordance with manufacturer's printed instructions and comply with recommendations of GA 216 and ASTM C840, including appendixes. Verify control joint locations at walls and ceilings with Architect.
- B. Use boards of maximum lengths to minimize end butt joints. Where unavoidable, locate end butt joints as far from center of walls or ceilings as possible, and stagger not less than 12 inches in alternate courses of board.
- C. Install gypsum drywall board with face side out. Do not install imperfect, damaged, damp or wet drywall boards. Butt boards together for light contact at edges or ends with not more than 1/16 inch open space between boards. Do not force into place.
- D. Locate edges or end joints over supports except in horizontal applications or where intermediate supports or gypsum board back-blocking is provided behind end joints. Position boards so that both tapered edge joints and mill-cut or field-cut end joints abut. Do not place tapered edges against cut edges or ends. Stagger vertical joints over different studs on opposite sides of partition/walls.
  - 1. Form curved surfaces by carefully bending and fastening board to smooth even curve, free of flat or distorted areas and other imperfections. Comply with manufacturer's instructions for dampening of sheets or scoring of back face, if required to form to radius shown.
  - 2. Hold gypsum board 1/4 inch above floor at each type of partition.
- E. Install solid and semisolid drywall partitions made-up of coreboard or gypsum board studs with face courses of exposed gypsum board, laminated with both adhesive and screws.
- F. Isolate gypsum surfaces with control joints or other stress relief where:
  - 1. Partition or furring abuts structural element (except floor) or dissimilar wall or ceiling.
  - 2. Ceiling abuts structural element, dissimilar wall or partition or other vertical penetration.
  - 3. Construction changes within plane of partition or ceiling.
  - 4. Partition or furring run exceeds 30 feet.
  - 5. Ceiling dimensions exceed 50 feet in either direction with perimeter relief, or 30 feet without relief.
  - 6. Wings of "L", "U" and "T" shaped ceiling areas are joined.
  - 7. Expansion joints occur in exterior wall if expansion joints are not used.
  - 8. Where control joint is near a door opening, locate and align control joint with edge of door frame.
    - a. Ceiling height door frames may be used as control joints.
    - b. Where door frames are less than ceiling height, extend control joints to ceiling from both corners
  - 9. Review location of joints with Architect.
- G. 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. in area.
  - 2. Fit gypsum panels around ducts, pipes, and conduits.
  - 3. Where partitions intersect open concrete coffers, concrete joists, and other 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.

- H. Provide perimeter isolation where non-load-bearing partitions abut structural decks or ceilings, or vertical structural elements. Allow not less than 1/4 inch, nor more than 1/2 inch gap between gypsum and structure. Finish edges of face layer with casing bead. Seal space between casing bead and structure with continuous acoustical sealant bead. Do not attach board directly to tracks.
- I. Cutting, Fitting and Trimming: Accurately measure and precut gypsum drywall units prior to installation. Make cuts from face side by scoring and snapping away from face side or by sawing. Completely cut paper on back face; do not break paper by tearing. Maintain close tolerances for accurate fit at joints between sheets and at framed openings, and allow for covering of edges of cut-outs with plates and escutcheons. Cut edges smooth as required for neat and accurate fit.
- J. Begin fastening from center portion of sheet and work toward edges and ends. Ensure contact of drywall with supports by applying pressure on surface adjacent to fastener being driven. Do not locate fasteners closer than 3/8 inch from edges or ends of sheets. Drive with shank approximately perpendicular to drywall surface.
- K. Drive screws with power screwdriver recommended by drywall manufacturer. Do not hammer drive screws. Set screw heads slightly below surface of drywall, but do not break or strip paper face around screw. Stagger screws on edges and ends of adjacent sheets.
- L. For fire-rated Walls: Fasten to metal framing and furring with screws. Comply with drywall manufacturer's instructions and UL requirements for fastening, but do not exceed 8 inches on center at perimeter and 12 inches on center spacing at the field. Space fasteners not less than ~~3.8~~ 1/4 inch from edges and ends of gypsum drywall.
  - 1. For Non-rated Walls: Fasten perimeter and field at 12 inches on center.
  - 2. For multilayer fire-rated walls: Comply with UL requirements.
  - 3. For Acoustical Walls: Comply with fire-rated wall UL requirements.
- M. 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.
- N. Multilayer Fastening Methods: Fasten base layers and face layers separately to supports with screws.

### **3.3 ACOUSTICALLY RATED PARTITIONS**

- A. Provide continuous acoustical sealant beads on each side of bottom stud runner at three-way intersection between runner, floor and wallboard.
- B. Acoustical sealant shall close gaps between service outlets (electrical, telephone and data) and wallboard.
  - 1. Apply acoustical sealant to back of electrical J-boxes for power, telephone and data prior to installation of gypsum wallboard.
- C. Partitions shall be cut and sealed around structural elements.
- D. No wallboard layers shall be continuous between two adjacent rooms.
- E. Gaps around penetrations (ducts, pipes and conduit) shall be sealed as follows:
  - 1. One inch or less gap filled tightly with batt insulation.
  - 2. Gaps larger than one inch filled with heavy-density putty such as 3M Moldable Putty.

- F. Materials shall be as required by gypsum board system manufacturer to achieve laboratory Sound Transmission Class (STC) ratings.

### **3.4 ACCESSORIES INSTALLATION**

- A. Acoustical Insulation: Install blankets in accordance with manufacturer's printed instructions, with tight joints in blanket units. Use tape, adhesive or staples to hold blankets in place.
  - 1. Place acoustical insulation in partitions tight within spaces, around cut openings, behind and around electrical and mechanical items within or behind partitions and tight to items passing through partitions.
- B. Drywall Sealant: Seal perimeter of sound-rated partitions by filling open space between drywall and floor or ceiling construction with continuous bead of sealant. Fill open spaces between drywall and fixtures, cabinets and other flush or penetrating items with continuous bead of sealant. Seal sides and back of electrical boxes to completely close up openings and joints. Seal perimeter of wallboard shaft wall where it abuts other work.
  - 1. Apply joint sealant in accordance with Section 07900 - Joint Sealers.
- C. Adhesive Application: Use adhesive recommended by manufacturer for type of substrate indicated. Prepare substrate and laminate wallboard in accordance with manufacturer's printed instructions. Provide temporary fasteners or bracing as recommended until adhesive sets.
- D. Reinforce external corners of drywall with metal corner bead. Securely fasten metal corner beads, edge trim casing beads and control joints.

### **3.5 FINISHING**

- A. Finish exposed drywall surfaces with joints, corners and exposed edges reinforced or trimmed and with joints, fastener heads, trim accessory flanges and surface defects filled with joint compound in accordance with drywall manufacturer's recommendations for smooth, flush surface. Form true, level or plumb lines, without joints, fastener heads, flanges of trim accessories or defects visible after application of field-applied decoration. Exposed metal trim (not filled) will not be acceptable.
- B. Use joint tape to reinforce joints formed by tapered edges or butt ends of drywall units and at interior corners and angles. Set tape in joint compound and apply skim coat over tape in one application. Do not use topping or finishing compounds for setting of tapes.
- C. Apply joint compound to joint. Apply joint compound to fill holes left from removal of screws at intermediate studs. Finish gypsum drywall thereafter, including sanding of final coat, in accordance with ASTM C840.
- D. Where open spaces of more than 1/16 inch width occur between abutting drywall units, except at control joints, prefill joints with joint compound and allow prefill to dry before application of joint tape.
- E. Finish Levels of Joints in Interior Gypsum Board Work:
  - 1. Level 0: No taping, finishing, or accessories required.
    - a. Use above suspended ceilings and within other concealed spaces, unless assembly is fire rated, sound rated, sound or smoke controlled, or unless space serves as air plenum.
  - 2. Level 1: At joints and interior angles embed tape in joint compound. Leave surface free of excess joint compound. Tool marks and ridges are acceptable.
  - 3. Level 2: At joints and interior angles embed tape in joint compound with one separate coat of joint compound applied over joints, angles, fastener heads, and accessories.
    - a. Use for water resistant gypsum board indicated for use as a substrate for ceramic tile.
    - b. Use for gypsum board indicated for use as a substrate for wood paneling or acoustical panels.
    - c. Use above suspended ceilings and within other concealed spaces if gypsum board assembly is fire rated, sound rated, sound or smoke controlled, or space serves as air plenum.
  - 4. Level 3: At joints and interior angles embed tape in joint compound with 2 separate coats of joint compound applied over joints, angles, fastener heads, and accessories. Apply joint compound smooth and free of tool marks and ridges.
    - a. Use where heavy grade wall covering is final decoration.

- b. Use where gypsum board is base for acoustical ceiling tile.
- 5. Level 4: At joints and interior angles embed tape in joint compound with 3 separate coats of joint compound applied over joints, angles, fastener heads, and accessories. Apply joint compound smooth and free of tool marks and ridges.
  - a. Use for all locations, except those indicated for other finish levels.
- 6. Level 5: At joints and interior angles embed tape in joint compound with 3 separate coats of joint compound applied over joints, angles, fastener heads, and accessories. Apply thin skim coat of joint compound, or material manufactured especially for this purpose, to entire surface. Leave surface smooth and free of tool marks and ridges.
  - a. Use for 2 story walls with direct natural day lighting (Lobbies, Entries, Rooms with large day lighting and long walls perpendicular to windows).
  - b. Use at ceilings in Lobbies, assembly areas with direct natural day lighting.
  - c. Use where skim coat finish is indicated on the Finish Drawings.

### **3.6 FIELD QUALITY CONTROL**

- 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 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:
    - a. Installation of 80 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.
- B. Installation of ceiling support framing.

**END OF SECTION 09260**