

SECTION 09260

**GYPSUM BOARD ASSEMBLIES ON METAL FRAMING**

PART 1 - GENERAL

1.1 SUMMARY

- A. Description of Work: Work of this section includes, but is not limited to, the following:
  1. Gypsum board and accessories
  2. Metal studs and furring
  3. Metal shaftwall systems
  4. Metal suspension systems
  5. Sound-rated construction and accessories
  6. Gypsum board finishing
  7. Trim and accessories

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. See Section 09900 PAINTING AND FINISHING for gypsum board prime and finish coats.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer's specifications and installation instructions with project conditions and materials clearly identified or detailed for each required system.

1.4 SYSTEM REQUIREMENTS

- A. Performance Requirements: Fabricate and install systems as indicated but not less than that required to comply with ASTM C754 under the following conditions:
  1. Gypsum board partitions:
    - a. Standard systems: Maximum deflection of  $l/240$  of partition height.
  2. Cavity shaftwall systems: Withstand minimum positive and negative pressure of 5 psf.
  3. Interior suspended ceilings and soffits: Maximum deflection of  $l/360$  of distance between supports.
  4. Nonstructural components that are permanently attached to structures and their support attachments, shall be designed and constructed to resist the effects of earthquake motions in accordance to local jurisdiction.
- B. Fire Resistance Ratings: Where fire resistance classifications are indicated, provide materials and application procedures identical to those listed by UL or tested according to ASTM E119 for type of construction shown.
- C. Acoustical Ratings: Where sound ratings are indicated, provide materials and application procedures identical to those tested by manufacturer to achieve Sound Transmission Class (STC) scheduled or indicated in accordance with ASTM E90.

1.5 QUALITY ASSURANCE

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- A. Reference Standards:
  - 1. Applicable requirements of ASTM C754 for installation of steel framing.
  - 2. Install gypsum board in accordance with applicable requirements and recommendations of Gypsum Association GA 216, "Recommended Specifications for the Application and Finishing of Gypsum Board" except for more stringent requirements of manufacturer.
  - 3. Apply acoustical sealant in accordance with applicable requirements of ASTM C919.

### 1.6 DELIVERY, STORAGE AND HANDLING

- A. Delivery:
  - 1. Deliver material to site promptly without undue exposure to weather.
  - 2. Deliver in manufacturer's unopened containers or bundles, fully identified with name, brand, type and grade.
- B. Storage:
  - 1. Store above ground in dry, ventilated space.
  - 2. Protect materials from soiling, rusting and damage.

### 1.7 PROJECT CONDITIONS

- A. Environmental Requirements:
  - 1. Do not install gypsum board when ambient temperature is below 40°F.
  - 2. For adhesive attachment of gypsum board, and for finishing of gypsum board, maintain ambient temperature above 55°F from one week prior to attachment or joint treatment, and until joint treatment is complete and dry.

## PART 2 - PRODUCTS

### 2.1 PRODUCTS AND MANUFACTURERS

- A. Gypsum Board and Accessories: Listed products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL. Or approved equal.
- B. Steel Framing and Furring: Company acceptable to installer.
- C. Grid Suspension Assemblies: Listed products establish standard of quality and are manufactured by United States Gypsum Company (USG), Chicago, IL. Or approved equal.

### 2.2 BOARD MATERIALS

- A. Gypsum Board:
  - 1. ASTM C1396 (Section 5), regular type except where Type X fire-resistant type is indicated or required to meet UL assembly types.
  - 2. Edges: Tapered.
  - 3. Acceptable products:
    - a. Typical partitions and ceilings: Equivalent to SHEETROCK® brand SW, FIRECODE® or FIRECODE® "C" Core gypsum panels by USG.

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- b. OR Equivalent to SHEETROCK® brand Regular, FIRECODE® or FIRECODE® "C" Core gypsum panels by USG.
  - c. Acceptable product for fire-rated walls: Equivalent to ULTRACODE® Core, 3/4 inch thick, by USG.
  - d. Use gypsum board and joint compound with little or no VOCs and formaldehyde emissions. Gypsum board shall have a minimum of 5% Post-consumer and 20% Post-industrial (nation-wide average for company) as defined by FTC (Federal Trade Commission) by USG.
- B. Moisture & Mold Resistant
- 1. ASTM C1396 (Section 5), regular type except where Type X fire-resistant type is indicated or required to meet UL assembly types.
  - 2. Edges: Tapered.
  - 3. Thickness: 5/8 inch.
  - 4. Acceptable products: Sheetrock® brand Mold Tough™ Firecode (Type X), Firecode® C Core or ULTRACODE® Core gypsum panels by USG.
- C. Shaftwall:
- 1. Liner boards:
    - a. ASTM C442, Type SLX.
    - b. Edges: Beveled.
    - c. Thickness: 1 inch.
    - d. Acceptable product: Equivalent to SHEETROCK® gypsum liner panels by USG.
  - 2. Face boards:
    - a. ASTM C1396 (Section 5), Type X.
    - b. Thickness: 1/2 inch, unless otherwise indicated.
    - c. Acceptable product: Equivalent to SHEETROCK® FIRECODE® C Core and FIRECODE® Core gypsum panels by USG.

### 2.3 METAL FRAMING AND FURRING MATERIALS

- A. Metal Studs and Runners:
- 1. ASTM C645, "C" shaped, gauge:
    - a. Provide gauge as indicated for studs; runner gauge as recommended by stud manufacturer.
    - b. Provide runner gauge as recommended by stud manufacturer.
  - 2. Depth of sections: As indicated.
  - 3. Corrosion protection: G40 hot-dipped galvanized coating per ASTM A525.
- B. Shaft Wall Supports:
- 1. Conform to ASTM A446, Grade A, with G40 hot-dipped galvanized coating per ASTM A525.
  - 2. Studs:
    - a. Shape: "CH", or as standard with manufacturer.
    - b. Gauge: As required to fulfill performance criteria, minimum 25 gauge. Provide 20 gauge for jamb and lintel components.
    - c. Size: As indicated.
    - d. J runners: 24 gauge, size as required for coordination with studs.
    - e. Jamb struts: 20 gauge with 3 inch back leg for use at elevator frames.
- C. Metal Furring Channels:

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1. Hat-shaped:
  - a. ASTM C645, 7/8 inch high, 25 gauge, with G40 hot-dipped galvanized coating per ASTM A525.
  - b. Provide 20 gauge at furring to receive tile backer board.
  - c. Acceptable products: DWC-25 for ½" and 5/8" gypsum board and DWC-20 by USG.
2. Z-shaped: ASTM C645, depths as indicated, 24 gauge minimum, with G40 hot-dipped galvanized coating per ASTM A525.
3. Resilient: Manufacturer's standard type designed to reduce sound transmission; 1/2 inch deep, 25 gauge steel with G40 hot-dipped galvanized coating per ASTM A525.

### 2.4 CEILING AND SOFFIT SUPPORT MATERIALS

- A. Hanger Anchorage Devices: Screws, clips, bolts or other devices compatible with indicated structural anchorage for ceiling hangers and whose suitability has been proven through standard construction practices or by certified test data.
- B. Hangers:
  1. Steel wire or rods, sizes to comply with requirements of ASTM C754 for ceiling or soffit area and loads to be supported.
  2. Wire: ASTM A 641, soft, Class 1 galvanized.
  3. Rods and flats:
    1. Mild steel components.
    2. Finish: Galvanized or painted with rust-inhibitive paint for interior work; galvanized for exterior work.
- C. Framing System:
  1. Main runners:
    1. Cold-rolled, "C" shaped steel channels, 16 gauge minimum.
    2. Finish: Galvanized or painted with rust-inhibitive paint for other interior work.
  2. Cross furring: Hat-shaped steel furring channels, ASTM C645, 7/8 inch high, 25 gauge, galvanized.
  3. Furring anchorages: 16 gauge galvanized wire ties, manufacturer's standard wire-type clips, bolts, nails or screws recommended by furring manufacturer and complying with ASTM C754.
  4. Provide compression posts and other accessories as required to comply with seismic requirements.
- D. Proprietary Framing System:
  1. Framing system for gypsum board panels consisting of cold-rolled steel members conforming to ASTM C635, with exposed surfaces finished in manufacturer's standard enamel paint finish.
  2. Fire rating: 1 hour rating in accordance with UL assembly indicated.
  3. Components: Main tees, furring cross channels, furring cross tees, and cross tees.
  4. Accessories:
    - a. U-shaped channel molding.
    - b. Galvanized carbon steel (12 ga.) hanger wire.
  5. Acceptable product: Equivalent to Drywall Suspension System by USG.

### 2.5 ACCESSORIES

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- A. Metal Trim for Gypsum Board:
  - 1. Conform to profile and dimensions indicated.
  - 2. Material for interior work: Galvanized steel, 26 gauge minimum.
  - 3. Corner beads: Equivalent to Dur-A-Bead No. 103 by USG.
  - 4. Casing beads (edge beads): Equivalent to 200A by USG.
  - 5. J-Beads.
- B. Adhesives and Joint Treatment Materials:
  - 1. Conform to requirements of ASTM C475.
  - 2. Joint compounds:
    - a. Drying-type (ready-mixed): Equivalent to SHEETROCK® brand taping joint compound and topping joint compound, or SHEETROCK® all purpose joint compound [or ready-mixed lightweight all purpose joint compound by USG.
- C. Gypsum Board Screws: Self-drilling, self-tapping steel screws.
  - 1. For steel framing less than 0.03 inch thick: Comply with ASTM C1002.
  - 2. For steel framing from 0.033 inch thick to 0.112 inch thick: Comply with ASTM C954.
  - 3. Provide Type S or Type S-12 screws.
- D. Backer Board Accessories: Provide accessories and corrosion-resistant-coated steel screws as recommended by backer board manufacturer and required for complete installation.
- E. Acoustical Sealant: Equivalent to SHEETROCK® acoustical sealant by USG.
- F. Miscellaneous Accessories: Provide as required for complete installations.

### PART 3 - EXECUTION

#### 3.1 EXAMINATION

- A. Examine substrates and adjoining construction and conditions under which work is to be installed. Do not proceed with work until unsatisfactory conditions are corrected.

#### 3.2 GENERAL INSTALLATION REQUIREMENTS

- A. Install in accordance with reference standards and manufacturer's instructions [and as required to comply with seismic requirements].
- B. Tolerances:
  - 1. Do not exceed 1/8 inch in 8'-0" variation from plumb or level in exposed lines of surface, except at joints between gypsum board units.
  - 2. Do not exceed 1/16 inch variation between planes of abutting edges or ends.
  - 3. Shim as required to comply with specified tolerances.
- C. Install framing to comply with ASTM C754 and with ASTM C840 requirements that apply to framing installation.

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- D. Install supplementary framing, blocking and bracing at terminations in gypsum board assemblies to support fixtures, equipment, heavy trim, grab bars, toilet accessories, furnishings or similar construction.

### 3.3 METAL SUPPORT INSTALLATION

#### A. Metal Runners:

1. Align and secure runner tracks accurately to partition layout at both floor and ceiling.
2. Provide fasteners appropriate to substrate construction as recommended by manufacturer.

#### B. Metal Studs:

1. Position metal studs vertically in the runners, spaced as indicated.
2. Place studs so that flanges face in same direction.
3. Cut studs 1/2 inch short of full height to provide perimeter relief.
4. Align and plumb partition framing accurately.
5. Where partitions abut ceiling or deck construction or vertical structural elements, provide slip or cushion type joint between partition and structure as recommended by stud manufacturer to prevent transfer of structural loads or movements to partitions, and to provide lateral support.
6. Provide horizontal bracing where necessary for lateral support.
7. Chase walls:
  - a. Position steel studs on opposite sides of chase directly across from each other.
  - b. Cut cross-bracing from gypsum board 12 inches high by chase wall width.

#### C. Ceiling and Soffit Support Systems:

1. Secure hangers or rods to structural support by connecting directly to structure where possible; otherwise connect to inserts, clips or other anchorage devices or fasteners indicated.
2. Space main runners, hangers and furring according to requirements of ASTM C754, except as otherwise indicated.
3. Where spacing of structural members, or width of ducts or other equipment, prevents regular spacing of hangers, provide supplemental hangers and suspension members and reinforce nearest affected hangers to span extra distance.
4. Install compression posts, splay wires and other accessories as required to comply with seismic requirements.
5. Extend runners to within 6 inches of walls.
6. Wire-tie or clip furring members to main runners and to other structural supports indicated. In fire resistance rated assemblies, wire-tie furring members; do not clip.
7. Do not permit furring or runners to contact masonry or concrete walls.
8. Provide 1 inch clearance between furring or runners and abutting walls and partitions.

### 3.4 FINISHING

- A. Provide levels of gypsum board finish for locations as follows, in accordance with Gypsum Association GA 214, "Recommended Specification: Levels of Gypsum Board Finish".

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1. Level 1: Ceiling plenum areas and concealed areas, except provide higher level of finish as required to comply with fire resistance ratings and acoustical ratings.
2. Level 2: Gypsum board substrate at tile [stone], except remove tool marks and ridges.
3. Level 3: Gypsum board surfaces, where textured finishes or heavy vinyl wall papering will be used [High-build Primer required as specified in Section 09911 or USG First Coat primer].
4. Level 4: Gypsum board surfaces, except where another finish level is indicated High-build Primer required as specified in Section 09911 or USG First Coat primer.

**END OF SECTION**