

SECTION 09250

GYP SUM BOARD

PART 1 - GENERAL

1.01 DESCRIPTION

A. This Section describes the requirements for furnishing and installing the following:

1. Gypsum board and associated accessories.

B. Related Sections:

1. Gypsum sheathing is specified in Section 06169.

2. Firestopping is specified in Section 07840.

3. Non-structural metal framing is specified in Section 09110.

4. Gypsum board shaft wall assemblies are specified in Section 09264.

5. Painting is specified in Section 09900.

1.02 SUBMITTALS

A. Product Data: Manufacturer's specifications and installation instructions for each type of gypsum wallboard and accessory required.

B. Layout Drawings: Furnish layout drawing showing proposed location of control joints.

1.03 QUALITY ASSURANCE

A. Manufacturer: Gypsum wallboard, including accessories and fasteners, shall be the products of the same manufacturer.

B. Gypsum wallboard work shall comply with ASTM C840, and CBC Chapter 25 and footnotes to CBC Tables 7-B and 7-C unless otherwise indicated or specified.

C. Installation and finishing of gypsum wallboard shall comply with GA-216. Installation of fire-rated gypsum board shall comply with their listing descriptions indicated on the Drawings.

D. Fire-Resistance Ratings: Where gypsum wallboard systems with fire-resistance ratings are indicated, provide materials and installations identical with those of applicable assemblies tested in accordance with ASTM E119 by fire testing laboratories acceptable to authorities having jurisdiction.

1. Provide fire-resistance-rated assemblies identical to those indicated by reference to GA File No's. in GA-600 "Fire Resistance Design Manual" or to design designations in UL "Fire Resistance Directory" or in listing of other testing and agencies acceptable to authorities having jurisdiction.

E. Allowable Tolerances:

1. Gypsum wallboard surfaces shall have no measurable variation in any 2-foot direction and a maximum variation of 1/8-inch in 10-feet when a straightedge is laid on the surface in any direction. Specified tolerances apply to both plumbness of walls and levelness of ceilings.

2. Shim work as required to comply with specified tolerances.

3. Do not exceed 1/16-inch offset between planes of abutting sheets at edges or ends.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

A. Delivery:

1. Deliver materials to the Project site in original package containers or bundles with manufacturer's labels intact and legible.

2. Deliver fire-rated materials bearing the testing agency's label and classification identification.
- B. Storage:
1. Store materials indoors in a dry area, under cover, and stacked flat off the floor.
 2. Stack wallboard so that long lengths are not over short lengths.
- C. Handle wallboard to avoid damaging face and edges of sheets.
- D. Protect metal corner beads and trim from being bent or damaged.

1.05 PROJECT CONDITIONS

- A. Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C840 and with gypsum board manufacturer's recommendations.
- B. Minimum Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40-deg. F. For adhesive attachment and finishing of gypsum board, maintain not less than 50-deg. F. for 48-hours prior to application and continuously thereafter until drying is complete.
- C. Ventilate building spaces to remove water not required for drying joint treatment materials. Avoid drafts during dry, hot weather to prevent materials from drying too rapidly.
- D. Provide for continuous ventilation during installation, using as close to 100-percent outside air as possible.
- E. Protect workers and HVAC system from gypsum dust.
- F. Remove and replace all gypsum board products that are exposed to water and display mold and mildew. Removal shall occur as soon as possible after exposure to water.

PART 2 - PRODUCTS

2.01 APPROVED MANUFACTURERS

- A. Domtar Gypsum, US Gypsum, Celotex or approved equal.

2.02 GYPSUM BOARD

- A. Fire-Rated Gypsum Wallboard: ASTM C36, Type X, 5/8-inch thick, with tapered and wrapped long edges.
- B. Regular Gypsum Wallboard: ASTM C36, Regular Type, 5/8-inch thick, with tapered and wrapped long edges.

2.03 WALLBOARD ACCESSORIES

- A. Screws: ASTM C954 or ASTM C1002.
 1. Use Type S screws for gypsum board attachment to light steel framing.
 2. Use Type S-12 screws for gypsum board attachment to 20-gauge and heavier steel framing.
 3. Use Type G screws for gypsum board attachment to gypsum board.
- B. Metal Trim:
 1. Corner Bead: Fine-mesh expanded-steel wing type, zinc coated in conformance with ASTM A643, G40 coating designation.
 2. Control Joint: Steel, perforated-flange wing type, with single bead, zinc coated in conformance with ASTM A643, G40 coating designation.
 3. Edge Trim: Fine-mesh expanded-steel flange, zinc coated in conformance with ASTM A643, G40 coating designation.
 4. Reveals: Fry Reglet or approved equal, profiles indicated, finish as selected by the Architect.

- C. Joint-Treatment Materials: ASTM C475.
 - 1. Joint Tape: Paper reinforcing tape. Provide glass-fiber tape at water-resistant gypsum board.
 - 2. Joint Compound: All-purpose joint compound containing inert fillers and natural binders.

PART 3 - EXECUTION

3.01 INSPECTION

- A. Verify that conditions are satisfactory for the installation of gypsum wallboard and accessories.
 - 1. Check framing for accurate spacing, alignment, plumbness, and levelness. Verify that both new and existing framing members will result in gypsum wallboard surfaces complying with specified tolerances.
 - 2. Verify spacing of installed framing does not exceed maximum allowable for thickness of wallboard to be used.
 - 3. Verify door frames are set for thickness of wallboard to be used.
 - 4. Repair protrusions of framing, twisted framing members, or unaligned members before installation of wallboard commences.
- B. Do not commence the installation until unsatisfactory conditions have been corrected.

3.02 APPLICATION OF GYPSUM WALLBOARD

- A. Apply materials in conformance with ASTM C840, the manufacturer's instructions, and as indicated. Apply fire-rated materials in accordance with CBC Section 703.1.
- B. When gypsum board is to be applied to both walls and ceilings, apply to ceilings first.
- C. For partitions, apply full height sheets with long dimension parallel to framing members with abutting edges over supports. Where required by fire resistive ratings, apply sheets with long dimension perpendicular to framing members. For fire-rated assemblies, apply gypsum board in accordance with CBC Tables 7-B and 7-C as applicable.
- D. Use sheets of maximum lengths to minimize end joints.
- E. Neatly fit and stagger end joints.
- F. Locate joints on different studs at opposite sides of partition.
- G. Cut and fit neatly around outlets and switches. Back-to-back wall penetrations shall be at least two stud spaces apart for acoustic isolation.
- H. Double-Layer Application:
 - 1. Apply base layer with long dimension perpendicular to and centered on framing; apply face layer parallel to framing. Apply base layer parallel to framing where required by fire-resistive ratings.
 - 2. Stagger sheets of each layer so that joints of each layer are 16-inches apart.
- I. Isolation of Wallboard from Other Construction:
 - 1. Provide perimeter relief where wallboard abuts structural decks, ceilings, vertical structural elements, or window sections.
 - 2. Finish wallboard edge with corner bead.
 - 3. Seal space between casing bead and structure with continuous sealant bead.
 - 4. Seal around electrical boxes and conduit and pipe penetrations.
 - 5. Seal at base of wallboard sheets.

J. Installation of Fasteners:

1. Do not locate fasteners less than 3/8-inch from edges or ends of sheets. Do not locate fasteners less than one-inch from edges or ends in horizontal applications.
2. Fire-Rated Partitions: Install fasteners in accordance with the more restrictive of either CBC Table 7-B or the Underwriters' Laboratories assemblies as denoted on partition schedule.
3. Non-Fire-Rated Partitions: Install fasteners in accordance with CBC Table 25-G.
4. Fire-Rated Ceilings: Install fasteners in accordance with CBC Table 7-C and Gypsum Association "Fire-Resistance Design Manual".
5. Non-Fire-Rated Ceilings: Install fasteners spaced not more than 12-inches on center.
6. Install screws using powered screw guns with adjustable screw-depth control head. Drive shank perpendicular to wallboard surface. Do not hammer screws.
7. Set fastener heads slightly below surface of wallboard, but do not break or strip paper face around fastener.
8. Stagger fasteners opposite each other on adjacent ends and edges.
9. Omit fasteners at edges where metal edge trim will be installed.

K. Installation of Accessories:

1. Install corner trim at vertical and horizontal external corners and angles, and edge trim at junctions of wallboard and other materials and at exposed edges.
2. Control Joints:
 - a. Ceilings: Maximum area for ceilings with perimeter relief shall be 2,500-sq. ft.; maximum area for ceilings without perimeter relief shall be 900-sq. ft. Do not exceed 50-feet between control joints in ceilings with perimeter relief; 30-feet between control joints in ceilings without perimeter relief.
 - b. Walls and Partitions: Maximum spacing between control joints shall not exceed 30-feet.
 - c. Control joint locations shall occur only where indicated on reviewed layout drawings.

3.03 TAPING AND FINISHING

A. Finish Levels: Unless otherwise scheduled, required finish levels for various areas shall be as follows:

1. Level 0: In areas of temporary construction, no taping or accessories are required.
2. Level 1: In plenum areas above ceilings, attics, electrical closets, and other areas not normally exposed to the public, joints and interior angles shall have tape embedded in joint compound. Surfaces shall be free of excess joint compound. Tool marks and ridges are acceptable.
3. Level 2: Not used.
4. Level 3: Not used.
5. Level 4: Unless otherwise specified in another finish level, joints and interior angles shall have tape embedded in joint compound and two separate coats of joint compound applied over joints, angles, fastener heads, and accessories. Joint compound shall be smooth and free of tool marks and ridges.
6. Level 5: Not used.

B. Mix joint finishing compounds in accordance with manufacturer's directions.

- C. Joints:
 - 1. Center tape over joint and embed in uniform layer of joint compound of sufficient width and depth to provide firm and complete bond. Apply skim coat while embedding tape.
 - a. Treat angles with reinforcing tape folded to conform to adjacent surfaces and straight, true angles.
 - 2. Apply finishing compound over taped joints. Apply number of coats specified for each finish level.
 - a. Spread first coat evenly and feather out beyond joint center approximately 3-1/2-inches.
 - b. After first coat is dry, sand or smooth to eliminate any high spots or excessive compound and cover with second coat with edges feathered out approximately 6-inches from center of joint. After second coat is dry, lightly sand with fine sandpaper or wipe with a damp sponge to leave a smooth even surface. When sanding, exercise caution not to raise nap of the gypsum board paper.
 - c. Do not allow build-up at joints to exceed 1/16-inch.
- D. Give dimples at fastener heads and marred spots on surface of wallboard one coat of joint compound and two coats of finishing compound, applied in same manner specified for joints.
- E. Cut edges and openings around pipes and fixtures shall be caulked flush with sanitary sealant as specified in Section 07920.
- F. Install metal accessories at external corners, exposed edges of gypsum board and where gypsum board abuts other materials.
 - 1. Conceal flanges of metal accessories with a minimum of two coats of compound.
 - 2. Extend compound 8- to 10-inches each side of accessories.
- G. In the completed installation, wallboard shall have plumb and straight surfaces with no waves or buckles. Joints, fastener heads, and trim flanges shall be invisible after finishing. Surfaces shall be uniformly smooth and ready for painting or other decoration.

3.04 PROTECTION OF FINISHED WORK

- A. Maintain temperature and humidity conditions as required to protect the installation.
- B. Protect completed wallboard from damage or deterioration until final acceptance of the work.

END OF SECTION