

## GYPSUM WALLBOARD ASSEMBLIES

## PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary and Supplementary Conditions and Division 1 Specification Sections, apply to work of this section.

## 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Interior gypsum wallboard.
  - 2. Tile backing panels.
  - 3. Non-load-bearing steel framing.
- B. Related Sections include the following:
  - 1. Division 5 Section "Cold-Formed Metal Framing" for load-bearing steel framing.
  - 2. Division 6 Section "Rough Carpentry" for wood framing and furring, exterior gypsum sheathing, and air infiltration barriers.
  - 3. Division 7 Section "Building Insulation" for insulation and vapor retarders installed in gypsum board assemblies.
  - 4. Division 9 Section "Painting" for painting.

## 1.3 DEFINITIONS

- A. Gypsum Board Terminology: Refer to ASTM C 11 for definitions of terms for gypsum board assemblies not defined in this Section or in other referenced standards.

## 1.4 SYSTEM DESCRIPTION

- A. In order to be acceptable, the appearance of all exposed wallboard surfaces in finished locations, after painting, shall be equivalent, in the judgment of the Architect, to the appearance of painted putty coat plaster surfaces and as follows:
  - 1. The finish shall be equal to a Level 4 Finish as described in the current edition of the "Gypsum Construction Handbook" of the United States Gypsum Company.

## 1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.

## 1.6 QUALITY ASSURANCE

- A. Comply with the provisions and recommendations of the United States Gypsum Company - "Gypsum Construction Handbook" (current edition) except where otherwise specified.
- B. Single-Source Responsibility: Obtain each type of gypsum board and related joint treatment materials from a single manufacturer.

- C. Sound Transmission Characteristics: For gypsum board assemblies and fire rated shaft-wall 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.

#### 1.7 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 boards to prevent damage to edges, ends and surfaces. Do not bend or otherwise damage metal corner beads and trim.

#### 1.8 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 840 requirements or gypsum board manufacturer's written recommendations, whichever are more stringent.
- B. Minimum Room Temperatures: For non-adhesive attachment of gypsum board to framing, maintain not less than 40°F (4°C). For adhesive attachment and finishing of gypsum board maintain not less than 50°F (10°C) 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.

#### 1.9 SCAFFOLDING

- A. Provide necessary scaffolding and staging required for proper execution of wallboard work.
- B. Allow access and use of scaffolding by other trades whose work must be coordinated with wallboard work at no additional cost or back-charge and during regular working hours.

#### 1.10 COORDINATION

- A. Make detailed inspection of all areas and surfaces to be covered.
- B. Verify dimensions, details, partition schedule and relationship to other work.
- C. Observe benchmarks and thickness of materials. Where diffusers or other accessories are mis-located notify installing trade with copy to the Architect.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply for product selection:
  - 1. Manufacturers: Subject to compliance with requirements, provide products by the manufacturers specified.

#### 2.2 STEEL PARTITION AND SOFFIT FRAMING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
1. Steel Framing and Furring:
    - a. Clark Steel Framing Systems.
    - b. Dale Industries, Inc. - Dale/Incor.
    - c. Dietrich Industries, Inc.
    - d. National Gypsum Company.
    - e. Unimast, Inc.
    - f. Western Metal Lath & Steel Framing Systems.
- B. Components, General: As follows:
1. Comply with ASTM C 754 for conditions indicated.
  2. Steel Sheet Components: Complying with ASTM C 645 requirements for metal and with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.
- C. Steel Studs and Runners: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0454 inch (1.15 mm).
  2. Depth: As indicated.
- D. Deep-Leg Deflection Track: ASTM C 645 top runner with 2-inch- (50.8-mm-) deep flanges.
- E. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
- F. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
1. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
  2. Depth: As indicated.
- G. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep, steel sheet members designed to reduce sound transmission.
1. Configuration: Asymmetrical, with face attached to single flange by a slotted leg (web).
    - a. Product: U.S. Gypsum No. RC-1 or equal.
- H. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches (31.8 mm), wall attachment flange of 7/8 inch (22.2 mm), minimum bare metal thickness of 0.0179 inch (0.45 mm), and depth required to fit insulation thickness indicated.
- I. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

## 2.3 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. Steel Framing and Furring:
  - a. Clark Steel Framing Systems.
  - b. Dale Industries, Inc. - Dale/Incor.
  - c. Dietrich Industries, Inc.
  - d. National Gypsum Company.
  - e. Unimast, Inc.
  - f. Western Metal Lath & Steel Framing Systems.
- B. Components, General: Comply with ASTM C 754 for conditions indicated.
- C. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- (1.59-mm-) diameter wire, or double strand of 0.0475-inch- (1.21-mm-) diameter wire.
- D. Hanger Attachments to Concrete: As follows:
  1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching hanger wires and capable of sustaining, without failure, a load equal to 5 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.
    - a. Type: Cast-in-place anchor, designed for attachment to concrete forms, postinstalled, chemical anchor, or postinstalled, expansion anchor.
  2. Powder-Actuated Fasteners: Suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other devices for attaching hangers of type indicated, and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 1190 by a qualified independent testing agency.
- E. Hangers: As follows:
  1. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch (4.12-mm) diameter.
- F. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch (1.37 mm), a minimum 1/2-inch- (12.7-mm-) wide flange, with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.
  1. Depth: Minimum 2 inches (50.8 mm) unless otherwise indicated.
- G. Furring Channels (Furring Members): Commercial-steel sheet with ASTM A 653/A 653M, G60 (Z180), hot-dip galvanized zinc coating.
  1. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch (22.2 mm) deep.
    - a. Minimum Base Metal Thickness: 0.0312 inch (0.79 mm).
  2. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep members designed to reduce sound transmission.
    - a. Configuration: Asymmetrical or hat shaped, with face attached to single flange by a slotted leg (web) or attached to two flanges by slotted or expanded metal legs.

## 2.4 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. Gypsum Wallboard: Gypsum core wall panel surfaced with a natural-finish face paper on front and a liner paper on back. Comply with ASTM C36 and the following:
  - 1. Regular Type:
    - a. Thickness: : 5/8 inch (15.9 mm).unless otherwise indicated.
    - b. Long Edges: Tapered.
    - c. Location: As indicated.
  - 2. Moisture- and Mold-Resistant Gypsum Board: ASTM C 1396/C 1396M. With moisture- and mold-resistant core and paper surfaces.
    - a. Core: 5/8 inch (15.9 mm) regular type] [**5/8 inch (15.9 mm)**, Type X].
    - b. Long Edges: Tapered.
    - c. Mold Resistance: ASTM D 3273, score of 10 as rated according to ASTM D 3274.
  - 3. Products: Subject to compliance with requirements, provide one of the following:
    - a. BPB America Inc., ProRoc products.
    - b. Georgia-Pacific Corp., ToughRock Gypsum Board products.
    - c. National Gypsum Company, Gold Bond Brand products.
    - d. United States Gypsum Co., Sheetrock Brand Gypsum products.

## 2.5 TRIM ACCESSORIES

- A. Interior Trim: ASTM C 1047.
  - 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
  - 2. Shapes:
    - a. Cornerbead: Use at outside corners.
      - 1) Product: U.S. Gypsum No. 103 Dur-A-Bead or equal.
    - b. LC-Bead (Casing Bead): J-shaped; exposed long flange receives joint compound; use at exposed panel edges and where indicated.
      - 1) Product: U.S. Gypsum No. 200-A Metal Trim or equal.
    - c. L-Bead (Casing Bead): L-shaped; exposed long leg receives joint compound; use where indicated.
      - 1) Product: U.S. Gypsum No. 200-B Metal Trim or equal.
    - d. Expansion (Control) Joint: Back to back casing beads.

## 2.6 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 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 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 or drying-type, all-purpose compound.
  - 3. Fill Coat: For second coat, use setting-type, sandable topping compound or drying-type, all-purpose compound.
  - 4. Finish Coat: For third coat, use setting-type, sandable topping compound or drying-type, all-purpose compound.
  - 5. Skim Coat: For final coat of Level 5 finish, use setting-type, sandable topping compound or drying-type, all-purpose compound.
- D. Joint Compound for Tile Backing Panels:
  - 1. Cementitious Backer Units: As recommended by manufacturer.

## 2.7 ACOUSTICAL SEALANT

- A. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant, with a VOC content of 250 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24), recommended for sealing interior concealed joints to reduce airborne sound transmission.
- B. Products: Subject to compliance with requirements, provide the following:
  - 1. Acoustical Sealant for Concealed Joints:
    - a. Tremco, Inc.; Tremco Acoustical Sealant.

## 2.8 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 and for adhering second layer of wallboard to first layer.
  - 1. Use adhesives that have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).
- C. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
  - 1. Use screws complying with ASTM C 954 for fastening panels to cold formed metal framing and steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.
- D. Isolation Strip at Exterior Walls:
1. Foam Gasket: Adhesive-backed, closed-cell vinyl foam strips that allow fastener penetration without foam displacement, 1/8 inch (3.2 mm) thick, in width to suit steel stud size.
- E. Sound Attenuation Blankets: ASTM C 665, 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.
  2. Density: 2.5 pounds per cubic foot.
  3. Thickness: 3 inches unless indicated otherwise on the drawings
  4. Products: Subject to compliance with requirements, provide the following:
    - a. Thermafiber Sound Attenuation Fire Blankets as manufactured by United States Gypsum Co.
- F. Thermal Insulation: As specified in Division 7 Section "Building Insulation."
- G. Polyethylene Vapor Retarder: As specified in Division 7 Section "Building Insulation."

### 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. Proceed with installation only after unsatisfactory conditions have been corrected.

#### 3.2 PREPARATION

- A. Suspended Ceilings: Coordinate installation of ceiling suspension systems with installation of overhead structure to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers at spacing required to support ceilings and that hangers will develop their full strength.
1. Furnish concrete inserts and other devices indicated to other trades for installation in advance of time needed for coordination and construction.

#### 3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Installation Standards: ASTM C 754, and ASTM C 840 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum board assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum board

manufacturer's written recommendations or, if none available, with United States Gypsum's "Gypsum Construction Handbook."

- C. Isolate steel framing from building structure at locations indicated to prevent transfer of loading imposed by structural movement.
  - 1. Isolate ceiling assemblies where they abut or are penetrated by building structure.
  - 2. Isolate partition framing and wall furring where it abuts structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assembly and laterally support assembly.
    - a. Use deep-leg deflection track where indicated.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.
- E. All mechanical heating and cooling system components shall be independently supported; not supported by gypsum board framing system.
- F. Provide gypsum panel bulkheads and closures where ducts penetrate fire separations.

#### 3.4 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum board assemblies abut other construction.
  - 1. Where studs are installed directly against exterior walls, install foam-gasket isolation strip between studs and wall.
  - 2. Anchor tracks 24 inches o.c. with not less than two fasteners per section.
    - a. Review electrical conduit layout in slab, avoid penetration of conduits running directly below walls.
  - 3. Secure studs to top and bottom runner tracks by either welding or screw fastening at both inside and outside flanges.
  - 4. Allow for differential movement between floors and at roofs by use of nested runners unless otherwise noted.
- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by the faces of adjacent framing.
- C. Extend partition framing full height to structural supports or substrates above suspended ceilings, except where partitions are indicated to terminate at suspended ceilings. Continue framing over frames for doors and openings and frame around ducts penetrating partitions above ceiling to provide support for gypsum board.
  - 1. Metal studs which do not extend full height to structure above, due to interference with ductwork and the like, shall be tied to cross stiffening, or diagonal bracing to structure above.
  - 2. Terminate partition framing at suspended ceilings where indicated.
- D. Interrupt metal framing (including top and bottom tracks) with a 1/2-inch gap at all control joint locations. Provide back to back studs and or framing for each control joint flange.

- E. Install supplementary framing, blocking, backing plates and bracing in metal framing system wherever walls or partitions are indicated to support fixtures, equipment, services, casework, heavy trim and furnishings, and similar work.
- F. Install steel studs and furring at the following spacings:
  - 1. Single-Layer Construction: 16 inches (406 mm) o.c., unless otherwise indicated.
  - 2. Multilayer Construction: 16 inches (406 mm) o.c., unless otherwise indicated.
  - 3. Cementitious Backer Units: 16 inches (406 mm) o.c., unless otherwise indicated.
- G. Install horizontal stiffeners in stud system, spaced (vertical distance) not more than 4'-6" o.c. Weld at each intersection.
- H. Install steel studs so flanges point in the same direction and leading edge or end of each panel can be attached to open (unsupported) edges of stud flanges first.
- I. Acoustical Partition:
  - 1. Typical Partition: Steel channel studs with one or two layers of wallboard each side, with or without blanket insulation between the studs.
  - 2. Lay all runners in mastic or caulk between wallboard and floor.
  - 3. Caulk all top and bottom joints between the wallboard and structure.
  - 4. Tape other joints and spackle partition thoroughly airtight.
- J. Sound Insulation (where indicated): Install in accordance with manufacturer's recommendations.
- K. Frame door openings to comply with GA-600 and with gypsum board manufacturer's applicable written recommendations, unless otherwise indicated. Screw vertical studs at jambs to jamb anchor clips on door frames; install runner track section (for cripple studs) at head and secure to jamb studs.
  - 1. Install two studs at each jamb, unless otherwise indicated.
  - 2. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
- L. Frame openings other than door openings the same as required for door openings, unless otherwise indicated. Install framing below sills of openings to match framing required above door heads.
- M. Z-Furring Members:
  - 1. Erect insulation vertically and hold in place with Z-furring members spaced 24 inches (610 mm) o.c.
  - 2. Except at exterior corners, securely attach narrow flanges of furring members to wall with concrete stub nails, screws designed for masonry attachment, or powder-driven fasteners spaced 24 inches (600 mm) o.c.
  - 3. At exterior corners, attach wide flange of furring members to wall with short flange extending beyond corner; on adjacent wall surface, screw-attach short flange of furring

channel to web of attached channel. At interior corners, space second member no more than 12 inches (300 mm) from corner and cut insulation to fit.

- N. Polyethylene Vapor Retarder: Where indicated install to comply with requirements specified in Division 7 Section "Building Insulation."

### 3.5 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. All ceiling construction shall be fully "unrestrained". Interrupt main runners, furring, or wallboard ceilings at walls of all full sized rooms as required to accommodate building movement. Use appropriate trim pieces to accomplish the work.
1. Cut furring, reinforce, support, and fit for electric outlet boxes, recessed fixtures, grilles and similar items.
  2. Provide allowance for anticipated building movement between floors and ceilings or soffits.
- B. Suspend ceiling hangers from building structure as follows:
1. Install hangers plumb and free from contact with insulation or other objects within ceiling plenum that are not part of supporting structural or ceiling suspension system. Splay hangers only where required to miss obstructions and offset resulting horizontal forces by bracing, countersplaying, or other equally effective means.
    - a. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
    - b. Do not attach hangers to steel deck tabs.
    - c. Do not attach hangers to steel roof deck. Attach hangers to structural members.
    - d. Do not connect or suspend steel framing from ducts, pipes, or conduit.
  2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with the location of hangers required to support standard suspension system members, install supplemental suspension members and hangers in form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
  3. Secure wire hangers by looping and wire-tying, either directly to structures or to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for substrate, and in a manner that will not cause them to deteriorate or otherwise fail.
- C. Tie carrying channels to hangers with single (only) wrap of wire to avoid lifting channel.
- D. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet (3 mm in 3.6 m) measured lengthwise on each member and transversely between parallel members.
- E. Wire-tie furring channels to supports, as required to comply with requirements for assemblies indicated.
1. Saddle tie furring channels to carrying channels with double strand tie wires.
  2. Screw furring to wood framing.
- F. Install suspended steel framing components in sizes and spacings indicated, but not less than that required by the referenced steel framing and installation standards.

1. Hangers: 48 inches (1219 mm) o.c.
2. Carrying Channels (Main Runners): 48 inches (1219 mm) o.c.
3. Furring Channels (Furring Members): 16 inches (406 mm) o.c.

### 3.6 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 ceiling board panels 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 panels not less than one framing member.
- D. 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 (1.5 mm) of open space between panels. Do not force into place.
- E. 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.
- F. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.
- I. Form control and expansion joints with space between edges of adjoining gypsum panels.
- J. 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. (0.7 sq. m) 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- (6.4- to 9.5-mm-) 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- (6.4- to 12.7-mm-) 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. Hold gypsum panels free from all surfaces subject to condensation or moisture.

- M. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install gypsum panels over wood framing, with floating internal corner construction.
- N. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's written recommendations.
- O. Space fasteners in panels that are tile substrates a maximum of 8 inches (203.2 mm) o.c.

### 3.7 PANEL APPLICATION METHODS

#### A. General:

1. Plenum wall, ceiling drops, skirts or baffles that are beyond reach of user or occupant are to be constructed to meet L/120 deflection criteria.
2. Partitions, ceiling drops, baffles or other assemblies within user or occupant contact or with painted or vinyl finishes or that some vibration or movement is not detrimental to perceived structural integrity shall be constructed to meet L/240 deflection criteria.
3. Partitions, or assemblies where finish is a rigid veneer, such as plaster, skim coat, tile or stone work or mounted mirror or any use that would be compromised by vibration or deflection shall be constructed to meet L/360 deflection criteria.
4. Do not proceed with work until temperature and humidity of building meet requirements of manufacturer's standard specifications.
5. Fastening system shall be power driven drywall screws. Where hand driven fasteners are used, double nailing will be required.
6. Set all nails and screws to slightly dimple, but not break surface of board. Space nails 6 to 8 inches, 3/8 inch from edges, staggered at joints; double spacing for screws.
7. Repair areas scarified or otherwise damaged by cutting out damaged areas, back blocking set with adhesive, and patching with patching plaster.
8. Grout anchors for door frames. Jamb board into door frame to provide rigidity. Full grout frames at label doors, shaftwall, and elsewhere as indicated.
9. Metal studs with finish one side are to receive stiffener channels at no more than 4'-6" maximum spacing.

#### B. Single-Layer Application:

1. On ceilings, apply gypsum panels before wall/partition board application to the 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 board.
  - b. At stairwells and other high walls, install panels horizontally, unless otherwise indicated or required by fire-resistance-rated assembly.

3. On Z-furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
- C. 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 sound-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.
- D. Single-Layer Fastening Methods: Apply gypsum panels to supports with steel drill screws.
- E. Multilayer Fastening Methods: Fasten base layers with screws; fasten face layers with adhesive and supplementary fasteners unless otherwise indicated or required by fire-resistance-rated assembly.
- 3.8 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 at locations indicated on Drawings and according to ASTM C 840 subject to Architect's approval.
- C. All aluminum in contact with joint compound shall have contact faces treated with zinc chromate primer.
- 3.9 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.
1. Apply perforated tape and compound at all joints, at inside corner and as required to conceal all fasteners and finish off all trim. Protect outside corners with corner beads.
  2. Finished appearance shall be perfectly smooth so that, after painting, there shall be no evidence of taping or patching. Areas where the location of joints or fasteners may be determined by visual inspection due to bulges, irregularities in surface or variations in texture, will be considered defective.
  3. If dry-out or over-sanding of finish coat of compound leaves surface requiring special treatment or sealing, provide such sealer or treatment and leave entire surface acceptable to the finishing trades as specified under Division 9 Section "Painting."
  4. Repair all nail pops, wrinkles, buckles and other defects occurring during the Guarantee period and make good all damage to other work resulting from such repairs.
- B. Prefill open joints and damaged surface areas.

- C. Apply joint tape over gypsum board joints, except those with trim having flanges not intended for tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below, according to ASTM C 840, for locations indicated:
  - 1. Level 4 Embed tape and apply separate first, fill, and finish coats of joint compound to tape, fasteners, and trim flanges.
- E. Cementitious Backer Units: Finish according to manufacturer's written instructions.

### 3.10 PATCHING AND REPAIRS

- A. Prior to start of painting or installation of wall covering, neatly and accurately patch and repair all damaged wallboard to match finish of adjoining work. Cut out cracks, damaged areas, blemished, defective portions and re-work to match adjacent area.
- B. Apply chemical treatment where required to remedy defects.
- C. After sizing and seal coats have been applied, as specified under Division 9 Section "Painting," patch and repair any hair cracks or fine cracks which become visible, as necessary to render finish painting free from visible cracks.

### 3.11 CLEAN UP

- A. Upon completion of the work, in each area, brush all surfaces clean including floors, ledges and other areas carrying droppings or debris resulting from the work.
- B. Upon completion of work in any area or as often as directed, remove from the premises and legally dispose of all surplus materials, and construction debris.
- C. Do not bury lime or gypsum materials on the site.

\*\*END OF SECTION\*\*