

## PART 1 – GENERAL

### 1.1 SUMMARY

#### A. Section Includes:

1. Framing metal studs for interior partitions, 20 gauge and lighter.
2. Resilient channel and furring.
3. Interior gypsum board and finishing systems.
4. Acoustical insulation.

### 1.2 DESIGN REQUIREMENTS

#### A. Fire-Resistance Ratings: Provide gypsum drywall construction having fire-resistance ratings indicated.

#### B. Conform to assemblies tested per ASTM E 119 by inspecting and testing organization acceptable to authorities having jurisdiction.

#### C. Structural Performance of Interior Partition Systems:

1. Lateral Loading: 5 psf per IBC, 2012 Edition.
2. Deflection Limit:
  - a. For Brittle Finishes: 1/240 of span.
  - b. For Gypsum Wallboard Finishes: 1/180 of span.
  - c. For Flexible Finishes: 1/120 of span.

#### D. Sound Transmission Classes (STC):

1. Untreated Interior Partition: 35 minimum.
2. Sound Partition: 45 minimum.
3. Shaft Wall System: 40 minimum.

### 1.3 SUBMITTALS

#### A. Comply with requirements of Section 01 33 00 "Submittal Procedures".

#### B. Certification: Submit UL, WHI, or other listing of fire rated assemblies, identifying products being provided.

#### C. Product data.

### 1.4 QUALITY ASSURANCE

#### A. Perform work in accordance with GA 216 - Standard Specifications for the Application and Finishing of Gypsum Board, published by the Gypsum Association.

#### B. Thickness of metal framing components is specified by decimal thickness as currently favored by steel industry trade associations. (Refer ASTM A 525.)

1. Specified metal thickness is minimum acceptable for base metal, uncoated, unless specifically indicated as Manufacturer's design thickness.

2. Gauge references are for convenience only and shall not be used to imply an acceptance of base metal thinner than the decimal thickness specified.
- C. Fire rating requirements take precedence over construction requirements indicated. In event of conflict, notify Owner and do not proceed in area of conflict until resolved.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original and unopened packages, containers, or bundles, with brand names and manufacturer's labels intact and legible.
- B. Store materials in dry location, fully protected from weather and direct exposure to sunlight.
- C. Stack gypsum board products flat and level, properly supported to prevent sagging or damage to ends and edges.
- D. Store corner bead and other metal and plastic accessories to prevent bending, sagging, distortion, or other mechanical damage.

#### 1.6 PROJECT CONDITIONS

- A. Environmental Conditions: Establish and maintain environmental conditions for applying and finishing gypsum board to comply with ASTM C 840 requirements or gypsum board manufacturer's recommendations, whichever are more stringent.
  1. For nonadhesive attachment of gypsum board to framing, maintain not less than 40 deg F (4 deg C). For adhesive attachment and finishing of gypsum board, maintain not less than 50 deg F (10 deg C) for 48 hours before application and continuously after until dry.
  2. Do not exceed 95 deg F (35 deg C) when using temporary heat sources.
  3. Ventilate building spaces as required to dry joint treatment materials. Avoid drafts during hot, dry weather to prevent finishing materials from drying too rapidly.

### PART 2 – PRODUCTS

#### 2.1 MANUFACTURERS

- A. Subject to compliance with requirements, provide products by one of the listed Manufacturers.
- B. Steel Framing and Furring:
  1. Cemco, Inc.
  2. Gold Bond Building Products Div., National Gypsum Co.
  3. Steeler
  4. Or Approved Equal.
- C. Gypsum Board:
  1. Domtar Gypsum Co.
  2. Georgia-Pacific Corp.
  3. Gold Bond Building Products Div., National Gypsum Co.
  4. United States Gypsum Co.
  5. Or Approved Equal.

D. Acoustical Gypsum Board:

1. CertainTeed
2. Pabco Gypsum
3. Or Approved Equal.

2.2 STEEL FRAMING FOR WALLS AND PARTITIONS

A. Steel Studs and Runners: ASTM C 645.

1. Minimum Base-Metal Thickness: As indicated on Drawings
2. Depth: As indicated on Drawings
3. Slip-Type Head Joints: Where indicated, provide one of the following:
  - a. Single Long-Leg Runner System: ASTM C 645 top runner with 2-inch (50.8-mm-) deep flanges in thickness not less than indicated for studs, installed with studs friction fit into top runner and with continuous bridging located within 12 inches (305 mm) of the top of studs to provide lateral bracing.
  - b. Double-Runner System: ASTM C 645 top runners, inside runner with 2-inch- (50.8-mm-) deep flanges in thickness not less than indicated for studs and fastened to studs, and outer runner sized to friction fit inside runner.
  - c. Deflection Track: Steel sheet top runner manufactured to prevent cracking of finishes applied to interior partition framing resulting from deflection of structure above; in thickness not less than indicated for studs and in width to accommodate depth of studs.

B. Flat Strap and Backing Plate: Steel sheet for blocking and bracing in length and width indicated.

1. Minimum Base-Metal Thickness: As indicated on Drawings.

C. Cold-Rolled Channel Bridging: 0.0538-inch (1.37-mm) bare-steel thickness, with minimum 1/2-inch- (12.7-mm-) wide flanges.

1. Depth: 1-1/2 inches (38.1 mm).
2. Clip Angle: Not less than 1-1/2 by 1-1/2 inches (38.1 by 38.1 mm), 0.068-inch- (1.73-mm) thick, galvanized steel.

D. Resilient Furring Channels: 1/2-inch- (12.7-mm-) deep, steel sheet members designed to reduce sound transmission.

1. Configuration: Asymmetrical.

2.3 GYPSUM BOARD

A. Provide gypsum board in maximum lengths available to minimize end joints. Thickness, 5/8 inch unless otherwise indicated.

B. Gypsum Wallboard: ASTM C 36, tapered edges.

1. Non-rated Assemblies: Regular Type.
2. Fire Rated Assemblies: Type X.

C. Gypsum Backing Board for Multi-Layer Applications: ASTM C 442 or A 36.

1. Non-rated Assemblies: Regular Type.
2. Fire Rated Assemblies: Type X.

D. Gypsum Acoustical Wallboard:

1. Thickness: 1/2" (12.7mm), tapered edges
2. Width: 4' (1220mm)
3. Lengths: 8' (2438mm), 9' (2743mm), 10' (3048mm), 12' (3658mm)
4. Weight: 2.13 lbs/sqft
5. STC-rated Assemblies (per ASTM E90): 47-52
6. Flame Spread (per ASTM E84): Class A
7. Product Standards: C1766
8. Installation Standards: ASTM C840; GA-214, GA-216

2.4 ACOUSTICAL PUTTY

- A. Moldable Acoustical Putty: Basis of Design Product: Quiet Putty by Pabco Gypsum. Non-toxic, non-skinning pads with STC rating: 47-63 (ASTM E90) or approved equal by one the following:
1. Acoustical Solutions
  2. ATS Acoustics
  3. CertainTeed
  4. or Approved Equal

2.5 TRIM ACCESSORIES

- A. ASTM C 840, Manufacturer's standard trim accessories, including corner bead and edge trim of beaded type with face flanges for concealment in joint compound except where semi-finishing or exposed type is indicated.
- B. Provide corner bead formed from zinc alloy.
- C. Provide one-piece control joints with 1/4 inch wide by 7/16-inch deep V-shaped slot, covered with removable tape, of roll-formed zinc or extruded vinyl as recommended by gypsum board Manufacturer.

2.6 GYP SUM BOARD JOINT TREATMENT MATERIALS

- A. ASTM C 475 and ASTM C 840, complying with recommendations of Manufacturer of both gypsum board and joint treatment materials for application indicated.
- B. Joint Tape: Paper reinforcing tape, unless otherwise indicated. Use open-weave glass fiber tape where recommended by gypsum board Manufacturer with use of setting-type joint compound.
- C. Setting-Type Joint Compound: Factory-prepackaged, job-mixed chemical-hardening powder products formulated for uses indicated.
- D. Drying-Type Joint Compounds: Factory-prepackaged, vinyl-based products:
1. Ready-Mix Formulation: Factory-premixed.
  2. All-purpose compound formulated for use as both taping and topping compound.

## 2.7 MISCELLANEOUS MATERIALS

- A. Provide auxiliary materials for gypsum board construction which comply with referenced standards and recommendations of gypsum board Manufacturer:
- B. Laminating Adhesives: Product recommended for laminating gypsum boards.
- C. Gypsum Board Screws: ASTM C 1002.
- D. Concealed Acoustical Sealant: Nondrying, nonhardening, nonskinning, nonstaining, nonbleeding, gunnable sealant as specified in Section 07 92 00 - Joint Sealants.
- E. Sound Attenuation Blankets:
  - 1. Cavity and Non-plenum Blankets: Encapsulated fiberglass or mineral fiber insulation complying with ASTM C 665, for Type I.
- F. Isolation Strip at Exterior Walls: Provide one of the following:
  - 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.

## PART 3 – EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates to which gypsum board construction attaches or abuts, preset hollow metal frames, structural framing, and other items affecting installation.
- B. Verify conditions are acceptable and ready to receive gypsum board assemblies.

### 3.2 STEEL FRAMING INSTALLATION

- A. Install steel framing to comply with ASTM C 754 and ASTM C 840.
- B. Isolate steel framing from building structure to prevent transfer of loading imposed by structural movement:
  - 1. Where edges of suspended ceilings abut building structure at ceiling perimeters and at penetrations of structural elements.
  - 2. Where partition and wall framing abuts overhead structure.
- C. Do not bridge building expansion and control joints with steel framing or furring members. Frame both sides of joint with steel framing or furring members or as indicated.
- D. Where studs are installed directly against exterior masonry walls or dissimilar metals at exterior walls, install isolation strip between studs and exterior wall.
- E. Secure hangers to structural support by connecting directly to structure where possible. Otherwise connect to inserts, clips, other anchorage devices or fasteners as indicated.
- F. Do not connect or suspend steel framing from ducts, pipes or conduit. Maintain 2 inches clearance to hangers and braces.

- G. Provide indirect-hung metal support system with carrying channels (main runners) spaced 4 feet o.c., hangers 4 feet o.c. along runners, and rigid furring members 16 inches o.c., unless otherwise indicated.
- H. Install direct-hung grid suspension system, including perimeter wall track or angle, with members spaced and installed to comply with Manufacturer's instructions.
- I. Install runner tracks at floors, ceilings and structural walls and columns. Where studs are installed directly against exterior walls of masonry or concrete, install asphalt felt strips between studs and wall.
- J. Extend partition framing full height to structural supports above suspended ceilings, except where indicated otherwise.
  - 1. Continue framing over frames for doors and other openings.
  - 2. Frame around ducts to provide support for gypsum board.
- K. Install steel studs at 16 inches on center except where otherwise indicated or required.
- L. Frame door and other openings with studs and runners of the proper gauge, number and arrangement to comply with Manufacturer's recommendations for size of opening, weight and height of doors, and stud size, unless otherwise indicated.
- M. Install supplementary framing, blocking and bracing at openings and terminations in the work and for support of fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings and similar construction to comply with details indicated and with recommendations of gypsum board Manufacturer.
- N. Resilient channel:
  - 1. Install acoustical batt insulation vertically and hold in place with resilient channel spaced 24 inches (610 mm) o.c.
  - 2. Securely attach narrow flanges of resilient channel to wall framing with narrow flange at bottom to allow weight of gypsum board to draw itself away from framing.
- O. Installation Tolerance: Install each framing member so fastening surfaces vary not more than 1/8 inch (3 mm) from the plane formed by faces of adjacent framing.

### 3.3 GYPSUM BOARD INSTALLATION

- A. Install and finish gypsum board to comply with ASTM C 840.
- B. Install gypsum board to metal supports in accordance with GA 216 and fire rated assembly requirements.
- C. Install sound attenuation blankets where indicated, without gaps and with support where necessary to prevent movement or dislocation.
  - 1. Locate behind and around electrical and mechanical items within or behind partition and tight to items passing through partitions.
  - 2. Lay sound attenuation blankets over ceiling construction adjacent and parallel to sound insulated partitions and STC rated operable partitions. Extend blankets out 24 inches each side.

- D. Install acoustical sealant around perimeter of acoustically insulated partitions. Apply continuous bead at each side of framing member interface with substrates. Seal all penetrations.
- E. Install board panels to minimize number of abutting end joints or avoid them entirely. Stagger abutting end joints of adjacent panels not less than one framing member.
- F. Position adjoining panels so that tapered edges abut tapered edges and field-cut edges abut field-cut edges and ends. Avoid joints at corners of framed openings.
- G. Attach gypsum panels to framing provided at openings and cutouts.
- H. Isolate drywall construction from abutting structural and masonry work. Provide edge trim and sealant as recommended by Manufacturer.
- I. Do not bridge building expansion or control joints. Leave space of the width indicated between boards, and trim both edges for installation of sealant or gasket.
- J. Double Layer Application:
  - 1. Fasten first layer to resilient channels with  $\frac{1}{2}$ " at 6" o.c. Do not allow screws to contact metal studs.
  - 2. Install second layer perpendicular to first.

### 3.4 INTERIOR GYPSUM BOARD FINISHES

- A. Definitions: Specified levels of finish represent finishes described in consensus document entitled Recommended Specification: Levels of Gypsum Board Finish, as published by AWCI, CISCA, GA, and PDCA.
- B. Level 0 Finish: No taping, applied trim accessories, or finishing required.
- C. Level 1 Finish:
  - 1. Embed joint tape in joint compound at gypsum board joints and interior angles.
  - 2. After joint treatment, remove excess joint compound from gypsum board surfaces.
  - 3. Apply trim accessories in corridors and other occupied areas.
- D. Level 2 Finish:
  - 1. Embed joint tape in joint compound at joints and interior angles.
  - 2. Apply separate coat of compound over joints, angles, fastener heads, and accessories.
  - 3. Remove excess joint compound from gypsum board surfaces.
- E. Level 3 Finish:
  - 1. Embed joint tape in joint compound at joints and interior angles.
  - 2. Apply two separate coats of compound over joints, angles, fastener heads, surface defects, and trim accessories.
  - 3. Finish joint compound smooth and free of tool marks and ridges.
  - 4. Remove excess joint compound from gypsum board and leave prepared surfaces ready to be coated with primer/sealer prior to application of final finishes.
- F. Level 4 Finish:

1. Embed joint tape in joint compound at joints and interior angles.
2. Apply three separate coats of compound over joints, angles, fastener heads, surface defects, and trim accessories.
3. Finish joint compound smooth and free of tool marks and ridges.
4. Remove excess joint compound from gypsum board and leave prepared surfaces ready to be coated with primer/sealer prior to application of final finishes.

G. Level 5 Finish:

1. Embed joint tape in joint compound at joints and interior angles.
2. Apply three separate coats of compound over joints, angles, fastener heads, surface defects, and trim accessories.
3. Finish joint compound smooth and free of tool marks and ridges.
4. After joint treatment, apply skim coat of joint compound, or a material manufactured especially for this purpose, over exposed interior gypsum board surfaces.
5. Sand lightly, and leave prepared surfaces ready to be coated with primer/sealer prior to application of finish paint.

3.5 SCHEDULE OF INTERIOR FINISHES

- A. Level 0 Finish Not Used
- B. Level 1 Finish Areas above ceiling, not exposed to view.
- C. Level 2 Finish Surfaces to receive special wall surfacing.
- D. Level 3 Finish Not Used.
- E. Level 4 Finish Surfaces to receive flat paints, matte, eggshell and semi-gloss finishes.
- F. Level 5 Finish Not Used.

**END OF SECTION**