

## SECTION 09220 - PORTLAND CEMENT PLASTER

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Exterior portland cement plasterwork on metal lath.

#### 1.3 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Show locations and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other work.
- C. Samples for Initial Selection: For each type of factory-prepared finish coat indicated.
- D. Samples for Verification: For each type of factory-prepared finish coat indicated; 12 by 12 inches, and prepared on rigid backing.

#### 1.4 QUALITY ASSURANCE

- A. Fire-Test-Response Characteristics: For portland cement plaster 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.
- B. Mockups: Before plastering, install mockups of at least 100 sq. ft. in surface area to demonstrate aesthetic effects and set quality standards for materials and execution.
  - 1. Install mockups for each type of finish indicated.
  - 2. For interior plasterwork, simulate finished lighting conditions for review of mockups.
  - 3. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. 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.

1.6 PROJECT CONDITIONS

- A. Comply with ASTM C 926 requirements.
- B. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

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

2.2 METAL LATH

- A. Expanded-Metal Lath: ASTM C 847 with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
  - 1. Manufacturers:
    - a. Alabama Metal Industries Corporation (AMICO).
    - b. California Expanded Metal Products Company (CEMCO).
    - c. Dale/Incor.
    - d. Marino/Ware; Division of Ware Industries, Inc.
    - e. Phillips Manufacturing Co.
    - f. Unimast, Inc.
    - g. Western Metal Lath & Steel Framing Systems.
  - 2. Diamond-Mesh Lath: Flat, self furring.
    - a. Weight: 3.4 lb/sq. yd..
- B. Paper Backing: FS UU-B-790, Type I Grade D, Style 2 vapor-permeable paper.

2.3 ACCESSORIES

- A. General: Comply with ASTM C 1063 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.
- B. Zinc and Zinc-Coated (Galvanized) Accessories:
  - 1. Manufacturers:
    - a. Dale/Incor.
    - b. Dietrich Industries, Inc.

- c. Phillips Manufacturing Co.
  - d. Unimast, Inc.
2. Foundation Weep Screenshot: Fabricated from hot-dip galvanized steel sheet, ASTM A 653/A 653M, G60 zinc coating.
  3. Cornerite: Fabricated from metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
  4. External-Corner Reinforcement: Fabricated from metal lath with ASTM A 653/A 653M, G60, hot-dip galvanized zinc coating.
  5. Cornerbeads: Fabricated from zinc-coated (galvanized) steel.
    - a. Small nose cornerbead with expanded flanges; use unless otherwise indicated.
  6. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges at all exposed ends of plaster.
  7. Control Joints: Fabricated from zinc-coated (galvanized) steel; one-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.
  8. Expansion Joints: Fabricated from zinc-coated (galvanized) steel; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
- C. Plastic Trim: Fabricated from high-impact PVC.
1. Manufacturers:
    - a. Alabama Metal Industries Corporation (AMICO).
    - b. Plastic Components, Inc.
    - c. Vinyl Corp.
  2. Cornerbeads: With perforated flanges.
    - a. Small nose cornerbead; use unless otherwise indicated.
    - b. Small nose cornerbead recommended by manufacturer for use where durable corner is required; use on columns and for finishing unit masonry corners.
    - c. Bull nose cornerbead, radius 3/4 inch minimum; use at locations indicated on Drawings.
  3. Casing Beads: With perforated flanges in depth required to suit plaster bases indicated and flange length required to suit applications indicated.
    - a. Square-edge style; use unless otherwise indicated.
    - b. Bull-nose style, radius 3/4 inch minimum; use at locations indicated on Drawings.
  4. Control Joints: One-piece-type, folded pair of unperforated screeds in M-shaped configuration; with perforated flanges and removable protective tape on plaster face of control joint.

## 2.4 MISCELLANEOUS MATERIALS

- A. Water for Mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

- B. Bonding Compound: ASTM C 932.
- C. Steel Drill Screws: For metal-to-metal fastening, ASTM C 1002 or ASTM C 954, as required by thickness of metal being fastened; with pan head that is suitable for application; in lengths required to achieve penetration through joined materials of not fewer than three exposed threads.
- D. Fasteners for Attaching Metal Lath to Substrates: Complying with ASTM C 1063.
- E. 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.
  - 1. Products:
    - a. Pecora Corporation; AC-20 + Silicone.
    - b. Tremco Incorporated; Tremflex 834.
    - c. United States Gypsum Co.; SHEETROCK Acoustical Sealant.
- F. Acoustical Sealant for Concealed Joints: Nondrying, nonhardening, nonskinning, nonstaining, gunnable, synthetic-rubber sealant recommended for sealing interior concealed joints to reduce airborne sound transmission.
  - 1. Products:
    - a. OSI Sealants, Inc.; Pro-Series SC 170 Acoustical Sound Sealant - Solvent.
    - b. Pecora Corporation; BA-98.
    - c. Tremco, Inc.; Tremco Acoustical Sealant.

## 2.5 PLASTER MATERIALS

- A. Portland Cement: ASTM C 150, Type I.
  - 1. Color for Finish Coats: Gray.
- B. Plastic Cement: ASTM C 1328.
- C. Colorants for Job-Mixed Finish-Coats: Colorfast mineral pigments that produce finish plaster color to match Architect's sample.
- D. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.
- E. Sand Aggregate: ASTM C 897.
  - 1. Color for Job-Mixed Finish Coats: In color matching Architect's sample.
- F. Ready-Mixed Finish-Coat Plaster: Mill-mixed portland cement, aggregates, coloring agents, and proprietary ingredients.
  - 1. Products:

- a. California Stucco Products Corp.; Conventional Portland Cement Stucco.
- b. ChemRex; Thoro Stucco.
- c. Florida Stucco Corp.
- d. Highland Stucco & Lime Products, Inc.
- e. United States Gypsum Co.; Oriental Exterior Finish Stucco.

2. Color: As selected by Architect from manufacturer's full range.

G. Acrylic-Based Finish Coatings: Factory-mixed acrylic-emulsion coating systems, formulated with colorfast mineral pigments and fine aggregates; for use over portland cement plaster base coats. Include manufacturer's recommended primers and sealing topcoats for acrylic-based finishes.

1. Products:

- a. Bonsal, W. R. Co.
- b. ChemRex, SonoWall Stucco Systems
- c. Dryvit Systems, Inc.
- d. Parex Incorporated
- e. Pleko Products, Inc.
- f. Senergy, Inc.
- g. Sto Corp.

2. Color: As selected by Architect from manufacturer's full range.

## 2.6 PLASTER MIXES

A. General: Comply with ASTM C 926 for applications indicated.

B. Base-Coat Mixes for Use over Metal Lath: Scratch and brown coats for three-coat plasterwork as follows:

1. Portland Cement Mixes:

- a. Scratch Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material (sum of separate volumes of each component material).
- b. Brown Coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 3 to 5 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

C. Job-Mixed Finish-Coat Mixes:

1. Portland Cement Mix: For cementitious materials, mix 1 part portland cement and 3/4 to 1-1/2 parts lime. Use 1-1/2 to 3 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

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

### 3.2 PREPARATION

- A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.
- B. Prepare solid-plaster bases that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C 926.
- C. Coordination with Sprayed Fire-Resistive Materials:
  - 1. Before sprayed fire-resistive materials are applied, attach offset anchor plates or ceiling runners (tracks) to surfaces indicated to receive sprayed fire-resistive materials. Where offset anchor plates are required, provide continuous plates fastened to building structure not more than 24 inches o.c.
  - 2. After sprayed fire-resistive materials are applied, remove them only to extent necessary for installation of plaster assemblies and without reducing the fire-resistive material thickness to less than that required to obtain fire-resistance rating indicated. Protect remaining fire-resistive materials from damage.

### 3.3 INSTALLATION, GENERAL

- A. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.
- B. Acoustical Sealant: Where required, seal joints between edges of plasterwork and abutting construction with acoustical sealant.

### 3.4 INSTALLING METAL LATH

- A. Expanded-Metal Lath: Install according to ASTM C 1063.
  - 1. Partition Framing and Vertical Furring: Install flat diamond-mesh lath.
  - 2. Flat-Ceiling and Horizontal Framing: Install flat diamond-mesh lath.
  - 3. On Solid Surfaces, Not Otherwise Furred: Install self-furring diamond-mesh lath.

### 3.5 INSTALLING ACCESSORIES

- A. Install according to ASTM C 1063 and at locations indicated on Drawings.

B. Reinforcement for External Corners:

1. Install lath-type external-corner reinforcement at exterior locations.
2. Install cornerbead at interior locations.

C. Control Joints: Install control joints in specific locations approved by Architect for visual effect as follows:

1. As required to delineate plasterwork into areas (panels) of the following maximum sizes:
  - a. Vertical Surfaces: 144 sq. ft..
  - b. Horizontal and other Nonvertical Surfaces: 100 sq. ft..
2. At distances between control joints of not greater than 18 feet o.c.
3. As required to delineate plasterwork into areas (panels) with length-to-width ratios of not greater than 2-1/2:1.
4. Where control joints occur in surface of construction directly behind plaster.
5. Where plasterwork areas change dimensions, to delineate rectangular-shaped areas (panels) and to relieve the stress that occurs at the corner formed by the dimension change.

### 3.6 PLASTER APPLICATION

A. General: Comply with ASTM C 926.

1. Do not deviate more than plus or minus 1/4 inch in 10 feet from a true plane in finished plaster surfaces, as measured by a 10-foot straightedge placed on surface.
2. Grout hollow-metal frames, bases, and similar work occurring in plastered areas, with base-coat plaster material, before lathing where necessary. Except where full grouting is indicated or required for fire-resistance rating, grout at least 6 inches at each jamb anchor.
3. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated. Where casing bead does not terminate plaster at metal frame, cut base coat free from metal frame before plaster sets and groove finish coat at junctures with metal.
4. Provide plaster surfaces that are ready to receive field-applied finishes indicated.

B. Plaster Finish Coats: Apply to provide finish to match Architect's sample.

C. Acrylic-Based Finish Coatings: Apply coating system, including primers, finish coats, and sealing topcoats, according to manufacturer's written instructions.

### 3.7 CUTTING AND PATCHING

- A. Cut, patch, replace, and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, crazing and check cracking, dry outs, efflorescence, sweat outs, and similar defects and where bond to substrate has failed.

3.8 CLEANING AND PROTECTION

- A. Remove temporary protection and enclosure of other work. Promptly remove plaster from doorframes, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 09220

## SECTION 09253 - GYPSUM SHEATHING

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including Master Construction Agreement and General Conditions and Division 1 Specification Sections, apply to this Section.

#### 1.2 SUMMARY

- A. Gypsum sheathing in exterior cavity wall construction and other locations indicated on the Drawings.
- B. Extent of sheathing construction required is indicated on Drawings.
- C. This Section includes the following types of sheathing construction:
  - 1. Gypsum sheathing for screw-attachment to cold-formed metal framing.
- D. Load-bearing steel studs and "C" shaped steel joists for structural framing are specified in Division 5 - Section, "Cold- Formed Metal Framing."

#### 1.3 SUBMITTALS

- A. Provide the following required submittals in accordance with requirements of Division 1 Section "Submittals," and General and Supplementary Terms and Conditions for Construction Contracts and Special Conditions of the Contract.
- B. Product data from manufacturers for each type of product specified.

#### 1.4 QUALITY ASSURANCE

- A. Fire-Resistance Ratings: Where indicated, provide materials and construction which are identical to those of assemblies whose fire resistance rating has been determined per ASTM E 119 by a testing and inspecting organization 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 U.L. "Fire Resistance Directory" or in listing of other testing and agencies acceptable to authorities having jurisdiction.
- B. Single Source Responsibility: obtain each type of sheathing and related joint treatment materials from a single manufacturer.

#### 1.5 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. Neatly stack sheathing flat to prevent sagging.

- C. Handle sheathing to prevent damage to edges, ends, and surfaces. Do not bend or otherwise damage metal corner beads and trim.

## 1.6 PROJECT CONDITIONS

- A. Environmental Conditions, General: Establish and maintain environmental conditions for application and finishing gypsum board to comply with ASTM C 840 and with gypsum board manufacturer's recommendations.
- B. Minimum Room Temperatures: For attachment of gypsum board to framing, maintain not less than 40 deg. F (4 deg C).
- 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.

## PART 2 - PRODUCTS

### 2.1 MANUFACTURERS

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products which may be incorporated in the Work include the following:
  - 1. Sheathing Boards and Related Products:
    - a. Georgia-Pacific Corp.
    - b. Gold Bond Building Products Div., National Gypsum Co.
    - c. United States Gypsum Co.

### 2.2 GYPSUM SHEATHING

- A. Gypsum Sheathing Standards: Provide gypsum sheathing board complying with FS SS-L-30 for Type II (sheathing), Class 2 (water-resistant surfaces), Form a (plain back), Grade (core) and Style indicated below; and with ASTM C79.
  - 1. Grade W/X: Water-resistant treated and fire-resistant core.
  - 2. Style: V-tongue and groove long edges, square ends.
  - 3. Thickness: 1/2 inch.
  - 4. Size: 2'-0" x 8'-0" or 4'-0" x 8'-0".

### 2.3 MISCELLANEOUS MATERIALS

- A. General: Provide auxiliary materials for gypsum drywall construction which comply with referenced standards and the recommendations of the manufacturer of the gypsum board.
- B. Sheathing Tape: Provide 3M Sheathing Tape or Protect-O-Wrap Sheathing Tape with release paper manufactured specifically for sealing sheathing joints.
- C. Sheathing Screws: ASTM C 1002.

D. Auxiliary Materials:

1. Fasteners, Type S steel drill screws with corrosion-resistant finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates to which sheathing construction attaches or abuts, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of sheathing construction. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 WALL SHEATHING INSTALLATION

- A. General: Provide sheathing where shown. Fasten to exterior face of stud framing for exterior walls. Use 1-1/4" long, galvanized gypsum sheathing screws with 3/8" head. Keep perimeter fasteners 3/8" from edges and ends of board units. Fit boards tightly against each other and around openings.
- B. Install 2' x 8' sheathing horizontally with long edges at right angles to studs with grooved edge down. Center end joints over supports and stagger in each course. Secure sheathing to each support with sheathing screws in accordance with manufacturer's recommended spacing, but provide not less than 4 fasteners per 2' width per stud if framing is diagonally braced, or not less than 7 fasteners per 2' width per stud if not braced.
- C. Install bottom course of sheathing immediately after flexible thru-wall flashing is set on studs.
- D. Install flexible through-wall flashing at other locations as indicated on drawings, if not noted, immediately above door and window frames, abutting roof construction, and at window sills.
- E. Install sheathing tape securely adhered at all sheathing joints. Completely cover all joints so that no part of a joint is untaped.

3.3 PROTECTION

- A. Provide final protection and maintain conditions, in a manner suitable to Installer, which ensures sheathing construction being without damage or deterioration at time of Substantial Completion.

END OF SECTION 09253



## SECTION 09255 - GYPSUM BOARD ASSEMBLIES

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. This Section includes the following:
  - 1. Nonload-bearing steel framing members for gypsum board assemblies.
  - 2. Gypsum board assemblies attached to steel framing and furring channels.
  - 3. Impact-resistant gypsum board.
  - 4. Tile backing panels.

#### 1.3 ASSEMBLY PERFORMANCE REQUIREMENTS

- A. Sound Transmission Characteristics: For gypsum board assemblies with STC ratings, provide materials and construction identical to those of assemblies whose STC ratings were determined according to ASTM E 90 and classified according to ASTM E 413 by a qualified independent testing agency.

#### 1.4 SUBMITTALS

- A. General: Submit each item in this Article according to the Conditions of the Contract and Division 1 Specification Sections.
- B. Product Data for each type of product specified.
- C. Shop Drawings showing locations, fabrication, and installation of control and expansion joints including plans, elevations, sections, details of components, and attachments to other units of Work.

#### 1.5 QUALITY ASSURANCE

- A. Single-Source Responsibility for Steel Framing: Obtain steel framing members for gypsum board assemblies from a single manufacturer, unless otherwise indicated.

## 1.6 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. Neatly stack gypsum panels flat to prevent sagging.

## 1.7 PROJECT CONDITIONS

- A. Environmental Conditions, General: 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.
- B. Room Temperatures: 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. Do not exceed 95 deg F (35 deg C) when using temporary heat sources.
- C. Ventilation: 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. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated in the Work include, but are not limited to, the following:
- B. Steel Framing and Furring:
  - 1. Dale Industries, Inc.
  - 2. Dietrich Industries, Inc.
  - 3. National Gypsum Co.; Gold Bond Building Products Division.
- C. Gypsum Board and Related Products:

1. Georgia-Pacific Corp.
2. National Gypsum Co.; Gold Bond Building Products Division.
3. United States Gypsum Co.

## 2.2 STEEL FRAMING COMPONENTS FURRED CEILINGS

- A. General: Provide components complying with ASTM C 754 for conditions indicated.
- B. Steel Studs for Furring Channels: ASTM C 645, with flange edges of studs bent back 90 degrees and doubled over to form 3/16-inch- (5-mm-) wide minimum lip (return), and complying with the following requirements for minimum thickness of base (uncoated) metal and for depth:
  - C. Depth: 3-5/8 inches (92.1 mm), 25 gauge, unless otherwise indicated.

## 2.3 GYPSUM BOARD PRODUCTS

- A. General: Complying with ASTM C 36/C 36M or ASTM C 1396/C 1396M, as applicable to type of gypsum board indicated and whichever is more stringent.
  1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    - a. American Gypsum Co.
    - b. BPB America Inc.
    - c. G-P Gypsum.
    - d. Lafarge North America Inc.
    - e. National Gypsum Company.
    - f. USG Corporation.
- B. Type X and Regular Type:
  1. Thickness: 5/8 inch.
  2. Long Edges: Tapered.
- C. Impact-Resistant Type: Manufactured to produce greater resistance to surface indentation, through penetration (impact resistance), and abrasion than standard, regular-type and Type X gypsum board.
  1. Core: 5/8 inch, Type X.
  2. Category 3: Heavy Duty abuse resistance.
  3. Long Edges: Tapered.

## 2.4 TILE BACKING PANELS

### A. Cementitious Backer Units: ANSI A118.9.

1. Products: Subject to compliance with requirements, provide one of the following:
  - a. Custom Building Products: Wonderboard.
  - b. FinPan, Inc.: Util-A-Crete Concrete Backer Board.
  - c. USG Corporation: DUROCK Cement Board.
2. Thickness: 5/8 inch.

## 2.5 TRIM ACCESSORIES

### A. Interior Trim: ASTM C 1047.

1. Material: Galvanized or aluminum-coated steel sheet, rolled zinc, plastic, or paper-faced galvanized steel sheet.
2. Shapes:
  - a. Cornerbead.
  - b. Bullnose bead.
  - c. LC-Bead: J-shaped; exposed long flange receives joint compound.
  - d. L-Bead: L-shaped; exposed long flange receives joint compound.
  - e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
  - f. Expansion (control) joint.

## 2.6 JOINT TREATMENT MATERIALS

- A. General: Provide joint treatment materials complying with ASTM C 475 and the recommendations of the manufacturers of sheet products.
- B. Joint Tape for Gypsum Board: Paper reinforcing tape, unless otherwise indicated.
  1. Use pressure-sensitive or staple-attached, open-weave, glass-fiber reinforcing tape with compatible joint compound where recommended by manufacturer of gypsum board and joint treatment materials for application indicated.
- C. Setting-Type Joint Compounds for Gypsum Board: Factory-packaged, job-mixed, chemical-hardening powder products formulated for uses indicated.

- D. Drying-Type Joint Compounds for Gypsum Board: Factory-packaged vinyl-based products complying with the following requirements for formulation and intended use.

## 2.7 MISCELLANEOUS MATERIALS

- A. General: Provide auxiliary materials for gypsum board construction that comply with referenced standards and recommendations of gypsum board manufacturer.
- B. Steel drill screws complying with ASTM C 954 for fastening gypsum board to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrates to which gypsum board assemblies attach or abut, installed hollow metal frames, cast-in-anchors, and structural framing, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of assemblies specified in this Section. Do not proceed with installation until unsatisfactory conditions have been corrected.

### 3.2 PREPARATION

- A. Ceiling Anchorages: Coordinate installation of ceiling suspension systems with installation of overhead structural assemblies to ensure that inserts and other provisions for anchorages to building structure have been installed to receive ceiling hangers that will develop their full strength and at spacing required to support ceilings.

### 3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Steel Framing Installation Standard: Install steel framing to comply with ASTM C 754 and with 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 recommendations of gypsum board manufacturer or, if none available, with United States Gypsum Co.'s "Gypsum Construction Handbook."

### 3.4 APPLYING AND FINISHING GYPSUM BOARD, GENERAL

- A. Gypsum Board Application and Finishing Standards: Install and finish gypsum panels to comply with ASTM C 840 and GA-216.
- B. 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.
- C. Install gypsum panels with face side out. Do not install imperfect, damaged, or damp panels. 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.
- D. Locate both edge or 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. Avoid joints other than control joints at corners of framed openings where possible.
- E. Attach gypsum panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- F. Attach gypsum panels to framing provided at openings and cutouts.
- G. Form control and expansion joints at locations indicated and as detailed, and if not located at every 20' of horizontal run, with space between edges of adjoining gypsum panels, as well as supporting framing behind gypsum panels.
- H. Space fasteners in gypsum panels according to referenced gypsum board application and finishing standard and manufacturer's recommendations.

### 3.5 GYPSUM BOARD APPLICATION METHODS

- A. Single-Layer Application: Install gypsum wallboard panels as follows:
  - 1. On ceilings, apply gypsum panels prior to wall/partition board application to the greatest extent possible and at right angles to framing, unless otherwise indicated.
  - 2. Locate edge joints over furring members.
- B. Single-Layer Fastening Methods: Apply gypsum panels to supports as follows: