

SECTION 092613 - GYPSUM VENEER PLASTERING

PART 1 - GENERAL

1.1 M.S.U. ISSUES

- A. It is the intent of MSU that all gypsum veneer plaster used on its projects will comply with LEED™ NC 3 Credit Requirements MR Credit 4.1: Adhesives and Sealants.
- B. All gypsum board products will be applied ½” above floor level to minimize potential mold growth, unless gypsum board is required by fire rating to be installed to floor level.
- C. Patched openings in plaster construction shall be re-framed and lathed in as required to maintain original plaster thickness. Areas or openings to be patched shall have the existing finish coat chipped back one inch away from joint down to brown coat or base coat as required to overlap and bond new plaster patch to existing plaster. Areas to be patched or tied into shall be primed with an approved latex bonding agent in accordance with manufacturer’s recommendations.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Gypsum veneer plaster and gypsum base for veneer plaster.
 - 2. Cementitious backer units for tile backing panels.
 - 3. Non-load-bearing steel framing.

1.3 DEFINITIONS

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

1.4 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Submit printed VOC statement and product data for acoustical sealants and laminating adhesives in accordance with the General Administrative Requirements of the MSU Construction Standards 01300.1.2. Maximum VOC content when calculated according to South Coast Air Quality Management District (SCAQMD) Rule #1168, effective July 1, 2005 and amended January 7, 2005:
 - 1. Acoustical Sealants for Exposed and Concealed Joints 250 g/l
 - 2. Auxiliary Materials/Laminating Adhesives 50 g/l

1.5 QUALITY ASSURANCE

- A. Source Limitations for Gypsum Veneer Plaster Products: Obtain gypsum veneer plaster products, including gypsum base, joint reinforcing tape, embedding material, and plasters, from a single manufacturer.

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.
 - 1. Gypsum Base for Veneer Plaster: Stack panels flat to prevent sagging.

1.7 PROJECT CONDITIONS

- A. Environmental Limitations: Comply with ASTM C 843 requirements or gypsum veneer plaster manufacturer's written recommendations, whichever are more stringent.
- B. Room Temperatures: Maintain not less than 55 deg F or more than 80 deg F for 7 days before application of gypsum base and gypsum veneer plaster, continuously during application, and after application until veneer plaster is dry.
- C. Avoid conditions that result in gypsum veneer plaster drying too rapidly.
 - 1. Distribute heat evenly; prevent concentrated or uneven heat on veneer plaster.
 - 2. Maintain relative humidity levels for prevailing ambient temperature that produces normal drying conditions.
 - 3. Ventilate building spaces in a manner that prevents drafts of air from contacting surfaces during veneer plaster application and until it is dry.

PART 2 - PRODUCTS

2.1 STEEL FRAMING, GENERAL

- A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Dale Industries, Inc. - Dale/Incor.
 - 2. Dietrich Industries, Inc.
 - 3. Clark Steel Framing Systems.
 - 4. Unimast, Inc.
- B. Steel Framing Members, General: Comply with ASTM C 754 for conditions indicated.

1. Steel Sheet Components: Comply with ASTM C 645 requirements for metal, unless otherwise indicated.
2. Protective Coating: G60, hot-dip galvanized zinc coating,

2.2 STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.
- B. Hanger Attachments to Concrete:
 1. Anchors: Fabricated from corrosion-resistant materials with holes or loops for attaching wire hangers and capable of sustaining, without failure, a load equal to 10 times that imposed by construction as determined by testing according to ASTM E 488 by a qualified independent testing agency.
- C. Wire Hangers: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.162-inch diameter.
- D. Flat Hangers: Steel sheet, 1 by 3/16 inch by length indicated.
- E. Carrying Channels: Cold-rolled, commercial-steel sheet with a base metal thickness of 0.0538 inch and minimum 1/2-inch- wide flanges.
 1. Depth: 1-1/2 inches.
- F. Furring Channels (Furring Members):
 1. Cold-Rolled Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flanges, 3/4 inch deep.
 2. Steel Studs: ASTM C 645.
 - a. Minimum Base Metal Thickness: 0.0312 inch.
 - b. Depth: 3-5/8 inches.
 3. Hat-Shaped, Rigid Furring Channels: ASTM C 645, 7/8 inch deep.
 - a. Minimum Base Metal Thickness: 0.0312 inch]
- G. Grid Suspension System for Ceilings: ASTM C 645, direct-hung system composed of main beams and cross-furring members that interlock.
 1. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Armstrong World Industries, Inc.; Furring Systems/Drywall.
 - b. Chicago Metallic Corporation; Fire Front 630, Drywall Furring 640, Fire Front 650, Drywall Furring 660, Fire Front 670 System.
 - c. USG Interiors, Inc.; Drywall Suspension System.

2.3 STEEL PARTITION AND SOFFIT FRAMING

- A. Steel Studs and Runners: ASTM C 645.
 - 1. Minimum Base Metal Thickness: 0.0312 inch.
 - 2. Depth: 3-5/8 inches for ceiling heights up to 10 feet, and 6 inches for heights over 10 feet.
- B. Hat-Shaped, Rigid Furring Channels: ASTM C 645.
 - 1. Minimum Base Metal Thickness: 0.0312 inch.
 - 2. Depth: 7/8 inch].
- C. Resilient Furring Channels: 1/2-inch- deep, steel sheet members designed to reduce sound transmission.
- D. Cold-Rolled Furring Channels: 0.0538-inch bare steel thickness, with minimum 1/2-inch- wide flanges.
 - 1. Depth: 3/4 inch.
 - 2. Furring Brackets: Adjustable, corrugated-edge type of steel sheet with minimum bare steel thickness of 0.0312 inch.
 - 3. Tie Wire: ASTM A 641/A 641M, Class 1 zinc coating, soft temper, 0.0625-inch-diameter wire, or double strand of 0.0475-inch- diameter wire.
- E. Z-Shaped Furring: With slotted or nonslotted web, face flange of 1-1/4 inches, wall attachment flange of 7/8 inch, minimum bare metal thickness of 0.0179 inch, and depth required to fit insulation thickness indicated.
- F. Fasteners for Metal Framing: Of type, material, size, corrosion resistance, holding power, and other properties required to fasten steel members to substrates.

2.4 GYPSUM VENEER PLASTER MATERIALS

- A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - 1. Two-Component Gypsum Veneer Plaster:
 - a. United States Gypsum Co.:
 - 1) High-Strength Base Coat: IMPERIAL Basecoat Plaster.
 - 2) High-Strength, Smooth Finish Coat: IMPERIAL Finish Plaster
- B. Two-Component Gypsum Veneer Plaster: Separate formulations complying with ASTM C 587; one for base coat and one for finish coat application over substrates indicated.
 - 1. High-Strength Base Coat: Ready-mixed, base-coat plaster containing mill-mixed, fine silica sand; with a compressive strength of 3000 psi when tested according to ASTM C 472.

2. High-Strength Finish Coat: Ready-mixed, smooth, finish-coat veneer plaster containing mill-mixed, fine silica sand; with a compressive strength of 3000 psi when tested according to ASTM C 472.
3. Provide ready-mixed or job-sanded mix components, as standard for manufacturer, to comply with manufacturer's written recommendations.

2.5 PANEL PRODUCTS

- 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 Base for Veneer Plaster: ASTM C 588 and products of same manufacturer as plaster.
 1. Regular Type: 1/2 inch thick, unless otherwise indicated.
 - a. Location: Vertical and ceiling surfaces, unless otherwise indicated.
- C. Cementitious Backer Units: ANSI A118.9, 1/2 inch thick.
 1. Location: Tile substrates, unless otherwise indicated.
 2. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:
 - a. Custom Building Products; Wonderboard.
 - b. United States Gypsum Co.; DUROCK Cement Board.
 - c. National Gypsum Company; PermaBase.

2.6 TRIM ACCESSORIES

- A. Standard Trim: ASTM C 1047, provided or approved by manufacturer for use in gypsum veneer plaster applications indicated.
 1. Material: Galvanized or aluminum-coated steel sheet or rolled zinc.
 2. Shapes:
 - a. Cornerbead: Use at outside corners, unless otherwise indicated.
 - b. Expansion (Control) Joint: Use where indicated.

2.7 JOINT REINFORCING MATERIALS

- A. General: Comply with joint strength requirements in ASTM C 587 and with gypsum veneer plaster manufacturer's written recommendations for each application indicated.
- B. Joint Tape:
 1. Gypsum Base for Veneer Plaster. Open-mesh, glass fiber.
 2. Cementitious Backer Units: As recommended by cementitious backer unit manufacturer.

C. Embedding Material for Joint Tape:

1. Gypsum Base for Veneer Plaster: Material produced and recommended by gypsum veneer plaster manufacturer for use with joint tape material and gypsum veneer plaster applications indicated.
2. Cementitious Backer Units: Material recommended by cementitious backer unit manufacturer for applications indicated.

2.8 AUXILIARY MATERIALS

- A. General: Provide auxiliary materials that comply with referenced installation standards and manufacturer's written recommendations.
- B. Steel Drill Screws: ASTM C 1002, unless otherwise indicated.
1. Use screws complying with ASTM C 954 for fastening panels to steel members from 0.033 to 0.112 inch thick.
 2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

2.9 GYPSUM VENEER PLASTER MIXES

- A. Mechanically mix gypsum veneer plaster materials to comply with ASTM C 843 and with gypsum veneer plaster manufacturer's written recommendations.

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

3.3 INSTALLING STEEL FRAMING, GENERAL

- A. Installation Standards: ASTM C 754, and ASTM C 844 requirements that apply to framing installation.
- B. Install supplementary framing, blocking, and bracing at terminations in gypsum veneer plaster assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction. Comply with details indicated and with gypsum veneer plaster 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 they abut structure, except at floor. Install slip-type joints at head of assemblies that avoid axial loading of assemblies and laterally support assemblies.
- D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

3.4 INSTALLING STEEL SUSPENDED CEILING AND SOFFIT FRAMING

- A. 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.
 - 2. Where width of ducts and other construction within ceiling plenum produces hanger spacings that interfere with locations of hangers required to support standard suspension system members, install supplemental suspension members and hangers in the form of trapezes or equivalent devices. Size supplemental suspension members and hangers to support ceiling loads within performance limits established by referenced standards.
 - 3. Wire Hangers: Secure 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.
 - 4. Flat Hangers: Secure to structure, including intermediate framing members, by attaching to inserts, eyescrews, or other devices and fasteners that are secure and appropriate for structure and hanger, and in a manner that will not cause hangers to deteriorate or otherwise fail.
 - 5. Do not support ceilings directly from permanent metal forms. Furnish cast-in-place hanger inserts that extend through forms.
 - 6. Do not attach hangers to steel deck tabs.
 - 7. Do not attach hangers to steel roof deck. Attach hangers to structural members.
 - 8. Do not connect or suspend steel framing from ducts, pipes, or conduit.
- B. Installation Tolerances: Install steel framing components for suspended ceilings so members for panel attachment are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.
- C. Screw furring to wood framing.
- D. Wire tie or clip furring channels to supports.
- E. Install suspended steel framing components in sizes and spacings indicated, but not less than those required by referenced steel framing and installation standards.
 - 1. Hangers: 48 inches o.c.
 - 2. Carrying Channels (Main Runners): 48 inches o.c.

3. Furring Channels (Furring Members): 16 inches o.c.

- F. Grid Suspension System: Attach perimeter wall track or angle where grid suspension system meets vertical surfaces. Mechanically join main beam and cross-furring members to each other and butt-cut to fit into wall track.

3.5 INSTALLING STEEL PARTITION AND SOFFIT FRAMING

- A. Install tracks (runners) at floors, ceilings, and structural walls and columns where gypsum veneer plaster assemblies abut other construction.
- B. Installation Tolerance: Install each steel framing and furring member so fastening surfaces vary not more than 1/8 inch 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 base panels.
- D. Install steel studs and furring at the following spacings:
1. Single-Layer Construction: 16 inches o.c., unless otherwise indicated.
 2. Cementitious Backer Units: 16 inches o.c., unless otherwise indicated.
- E. 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.
- F. Frame door openings to comply with GA-600 and with gypsum veneer plaster manufacturer's 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. Install cripple studs at head adjacent to each jamb stud, with a minimum 1/2-inch clearance from jamb stud to allow for installation of control joint.
 3. Extend jamb studs through suspended ceilings and attach to underside of floor or roof structure above.
- G. 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.

3.6 APPLYING PANELS, GENERAL

- A. Gypsum Base for Veneer Plaster: Apply according to ASTM C 844, unless manufacturer's written recommendations are more stringent.
1. Do not allow gypsum base to fade from exposure to light.
 2. Erection Tolerance: No more than 1/16-inch offsets between planes of gypsum base faces, and 1/8 inch in 8 feet for level, plumb, warp, and bow.

- B. Install ceiling 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 panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or 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.
- E. Attach panels to steel studs so leading edge or end of each panel is attached to open (unsupported) edges of stud flanges first.
- F. Attach panels to framing provided at openings and cutouts.
- G. Do not attach panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float panels over these members using resilient channels, or provide control joints to counteract wood shrinkage.
- H. Form control and expansion joints with space between edges of adjoining panels.
- I. Cover both faces of steel stud partition framing with 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. in area.
 - 2. Fit 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 panels to fit profile formed by coffers, joists, and other structural members; allow 1/4- to 3/8-inch-wide joints to install sealant.
- J. Isolate perimeter of non-load-bearing partitions at structural abutments, except floors. Provide 1/4- to 1/2-inch- wide spaces at these locations, and trim edges with metal edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.
- K. Floating Construction: Where feasible, including where recommended in writing by manufacturer, install panels over wood framing, with floating internal corner construction.
- L. Fastener Spacing: According to referenced gypsum base for gypsum veneer plaster application standard, manufacturer's written recommendations, and fire-resistance-rating requirements.
 - 1. Space screws a maximum of 12 inches o.c. for vertical applications.
 - 2. Space fasteners in panels that are tile substrates a maximum of 8 inches o.c.

3.7 PANEL APPLICATION METHODS

A. Single-Layer Application:

1. On ceilings, apply gypsum base panels before wall/partition panels to the greatest extent possible and at right angles to framing, unless otherwise indicated.
2. On partitions/walls, apply gypsum base panels horizontally (perpendicular 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 panels.

B. Single-Layer Fastening Methods: Apply gypsum base panels to supports with steel drill screws.

C. Cementitious Backer Units: Install according to ANSI A108.11.

1. Where cementitious backer units abut other types of panels in the same plane, shim surfaces to produce a uniform plane across panel surfaces.

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 according to ASTM C 844 and in specific locations approved by Architect for visual effect.

3.9 INSTALLING JOINT REINFORCEMENT

- A. Gypsum Base for Veneer Plaster: Reinforce interior angles and flat joints with joint tape and embedding material to comply with ASTM C 843 and gypsum veneer plaster manufacturer's written recommendations.
- B. Cementitious Backer Units: Reinforce joints between cementitious backer units with joint tape and embedding material according to unit manufacturer's written recommendations.

3.10 GYP SUM VENEER PLASTERING

- A. Gypsum Veneer Plaster Application: Comply with ASTM C 843 and veneer plaster manufacturer's written recommendations.
 1. Where gypsum veneer plaster abuts metal door frames, windows, and other units in veneer plaster, groove finish coat to eliminate spalling.
- B. Concealed Surfaces: Omit gypsum veneer plaster in the following areas where veneer plaster will be concealed from view in the completed Work, unless otherwise indicated or required to

maintain fire-resistance rating. Do not omit veneer plaster behind cabinets, furniture, furnishings, and similar removable items.

1. Above suspended ceilings.
2. Behind wood paneling and other permanently applied wall or ceiling finishes.

C. Gypsum Veneer Plaster Finish: Smooth-troweled finish, unless otherwise indicated.

END OF SECTION 092613