General Specification Notes: References in blue are general indicators to the specifier. References in red relate to fire-rated assemblies and/or code related issues, if not applicable, delete.

SECTION 09210 / 09 21 00
GYPSUM PLASTER
Basecoat Plasters

Product Specification

PART 1 - GENERAL

1.01 SUMMARY

A. This Section includes the following:

1. Steel Framing and Furring.
2. Gypsum Plaster on Expanded Metal Lath
3. Gypsum Plaster on Gypsum Lath.

B. Related Sections include the following:

1. Section 01352 – LEED Requirements.
2. Section 05400 – Cold-Formed Metal Framing.
3. Section 06100 – Rough Carpentry.
4. Section 07210 – Building Insulation.

1.02 REFERENCES

A. American Society for Testing and Materials:

1. ASTM A 153: Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
2. ASTM A 510: Specification for General Requirements for Wire Rods and Course Round Wire, Carbon Steel.
3. ASTM A 641: Specification for Zinc-Coated (Galvanized) Carbon Steel Wire.
4. ASTM C 28: Specification for Gypsum Plaster.
5. ASTM C 35: Specification for Inorganic Aggregate for Use in Gypsum Plaster.
6. ASTM C 37: Specification for Gypsum Lath.
7. ASTM C 472: Test Methods for Physical Testing of Gypsum, Gypsum Plasters and Gypsum Concrete.
8. ASTM C 631: Specification for Bonding Compounds for Interior Gypsum Plastering.
9. ASTM C 645: Specification for Nonstructural Steel Framing Members.
10. ASTM C 665: Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing.

11. ASTM C 754: Specification for Installation of Steel Framing Members to Receive Screw-Attached Gypsum Panel Products.
12. ASTM C 841: Specification for Installation of Interior Lathing and Furring.
13. ASTM C 842: Specification for Application of Interior Gypsum Plaster.
14. ASTM C 847: Specification for Metal Lath.
15. ASTM C 919: Practice for Use of Sealants in Acoustical Applications.
16. ASTM C 954: Specification for Steel Drill Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Steel Studs from 0.033 inch to 0.112 inch in Thickness.
17. ASTM C 1002: Standard Specification for Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs.
18. ASTM E 90: Test Method for laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions and Elements.
19. ASTM E119: Test Method for Fire Tests of Building Construction and Materials.

1.03 SUBMITTALS

A. General: Submit in accordance with Section 01300.

B. Product Data: Submit manufacturer's current technical literature for product specified.

1.04 QUALITY ASSURANCE

A. Fire Resistance Rated Assembly Characteristics: For gypsum 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.

1. Fire Resistance Ratings: Indicated by design designations from UL Fire Resistance Directory.

B. Sound Transmission Characteristics: For gypsum plaster assemblies with STC ratings, provide materials and construction identical to those tested in assembly indicated according to ASTM E 90 by a qualified independent testing agency.

1.05 DELIVERY, STORAGE, AND HANDLING

A. All materials, except water and sand, shall be delivered in their original unopened packages and stored in an enclosed shelter providing protection from damage and exposure to the elements. Damaged or deteriorated materials shall be removed from the site.

1.06 PROJECT CONDITIONS

A. Comply with ASTM C 842 requirements or gypsum plaster manufacturer's written recommendations, whichever are more stringent.

PART 2 - PRODUCTS

2.01 STEEL FRAMING MEMBERS, GENERAL

A. Components, General: Comply with ASTM C 841. For steel sheet components not included in ASTM C 841, comply with ASTM C 645 requirements for metal, unless otherwise indicated.

B. Cold-Rolled Channels: Base metal thickness of 0.0538 inch.

1. Protective Coating: Manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.

C. Wire: ASTM A 641, Class 1 zinc coating, soft temper, not less than 0.0475-inch diameter, unless otherwise indicated.

2.02 STEEL FRAMING FOR CEILINGS

A. Suspended Furring:

1. Main Runners (Carrying Channels): Cold-rolled channels, in depth indicated.
2. Cross Furring: Cold-rolled channels, 3/4 inch deep.

B. Direct Furring: Cold-rolled channels, 3/4 inch deep.

C. Tie Wire:

1. For tying main runners directly to beams or joists (where wire hangers are used between beams or joists), use double loop of 0.1205-inch- diameter wire.
2. For tying furring directly to steel or wood structure without main runners, use double loop of 0.0625-inch- diameter wire, or quadruple loop of 0.0475-inch-diameter wire.
3. For saddle tying cross furring to main runners use 0.0625-inch- diameter wire, or double strand of 0.0475-inch- diameter wire.

D. Wire Hangers: 0.162-inch- diameter wire.

E. Rod Hangers: ASTM A 510, mild carbon steel, ASTM A 153, hot-dip galvanized.

1. Diameter: As indicated

F. Flat Hangers: Commercial-steel sheet, 1 by 3/16 inch.

1. Protective Coating: Manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.

2.03 STEEL FRAMING FOR PARTITIONS

A. Steel Studs and Runners: ASTM C 645.

2. Protective Coating: Manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.
3. Minimum Base Metal Thickness: As indicated.
4. Depth: As indicated.

B. Channel Bridging: Cold-rolled channels, in depth indicated.

1. Clip Angle: 1-1/2 by 1-1/2 inch, 0.068-inch- thick, galvanized steel.

C. Vertical Furring:

1. Hat-Shaped, Rigid Furring Channels: ASTM C 645.

a. Protective Coating: Manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.
b. Minimum Base Metal Thickness: As indicated.
c. Depth: As indicated.

2. Furring Channels: Cold-rolled channels, in depth indicated.

d. Furring Brackets: Adjustable, corrugated-edge type fabricated from steel sheet with minimum bare steel thickness of 0.0312 inch.

2.04 EXPANDED METAL LATH

A. Expanded-Metal Lath, General: ASTM C 847.

1. Finish: Manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.
2. Paper Backing: Kraft paper factory bonded to back of lath.

B. Diamond-Mesh Lath: [Flat] [Self-furring].

1. Weight: [2.5 lb/sq. yd.] [3.4 lb/sq. yd.].

2.05 GYPSUM PLASTER LATH

A. General: Comply with ASTM C 37.

1. Products: Subject to compliance with requirements, provide ROCKLATH Brand FIRECODE C Plaster Base and BRIDJOINT B-1 Clip by United States Gypsum Company.
2. Type and Thickness: Type X, 3/8 inch thick.
3. Size: 24 by 96 inches for horizontal installation.

2.06 ACCESSORIES

A. General: Comply with ASTM C 841 and coordinate depth of trim and accessories with thicknesses and number of plaster coats required.

B. Zinc and Zinc-Coated (Galvanized) Accessories:

1. Cornerite: Fabricated from expanded-metal lath with manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.
2. Striplath: Fabricated from expanded-metal lath with manufacturer's standard corrosion-resistant zinc coating, unless otherwise indicated.
3. Corner Beads: Fabricated from zinc or zinc-coated (galvanized) steel.

    a. Small nose corner bead with expanded flanges; use unless otherwise indicated.
    b. Bull nose corner bead, radius 3/4 inch minimum, with expanded flanges; use at locations indicated on Drawings.

5. Casing Beads: Fabricated from zinc or zinc-coated (galvanized) steel; square-edged style; with expanded flanges.
6. Control Joints: Fabricated from zinc or 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.
7. Expansion Joints: Fabricated from zinc or zinc-coated (galvanized) steel; folded pair of unperforated screeds in M-shaped configuration; with expanded flanges.
8. Two-Piece Expansion Joints: Fabricated from zinc or zinc-coated (galvanized) steel; formed to produce slip-joint and square-edged reveal that is adjustable from 1/4 to 5/8 inch wide; with perforated flanges.

C. Aluminum Trim: Extruded accessories of profiles and dimensions indicated on Drawings.

2.07 MISCELLANEOUS MATERIALS

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

B. Bonding Compound: ASTM C 631.

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 841.

E. Sound Attenuation Blankets: ASTM C 665, Type I, unfaced mineral fiber blanket.

1. Fire-Resistance-Rated Assemblies: Comply with mineral-fiber requirements of assembly.

2.08 BASECOAT PLASTER MATERIALS

A. Basecoat Plasters, General: ASTM C 28.

B. Gypsum Ready-Mixed Plaster: With mill-mixed perlite aggregate.

1. Product: Subject to compliance with requirements, provide STRUCTO-Lite Brand Pre-Mixed, Perlited Gypsum Plaster by United States Gypsum Company.

C. Gypsum Neat Plaster: For use with job-mixed aggregates.

1. Product: Subject to compliance with requirements, provide Red Top Brand Gypsum Plaster by United States Gypsum Company.

D. Gypsum Wood-Fibered Plaster:

1. Product: Subject to compliance with requirements, provide Red Top Brand Wood Fiber Plaster by United States Gypsum Company.

E. High-Strength Gypsum Neat Plaster: With a minimum, average, dry compressive strength of 2800 psi per ASTM C 472 for a mix of 100 lb of plaster and 2 cu. ft. of sand.

1. Product: Subject to compliance with requirements, provide STRUCTO-Base Brand Gypsum Plaster by United States Gypsum Company.

F. Aggregates for Base-Coat Plasters: ASTM C 35.

2.09 PLASTER MIXES

A. General: Comply with ASTM C 842 and manufacturer's written instructions for applications indicated.

B. Basecoat Mixes over Expanded-Metal Lath: [High-strength gypsum] [Gypsum neat] plaster with job-mixed sand for scratch and brown coats of three-coat plasterwork.

C. Basecoat Mixes over Expanded-Metal Lath: For three-coat plasterwork, as follows:

1. Scratch Coat: Gypsum wood-fibered plaster; neat or with job-mixed sand.
2. Brown Coat: Gypsum [wood-fibered plaster with job-mixed sand] [neat plaster with job-mixed sand] [ready-mixed plaster] [neat plaster with job-mixed perlite].

D. Basecoat Mix over Unit Masonry: Gypsum [wood-fibered plaster with job-mixed sand] [neat plaster with job-mixed sand] [ready-mixed plaster] for single base coats of two-coat plasterwork.

E. Basecoat Mix over Monolithic Concrete: Gypsum neat plaster with job-mixed sand for single base coats of two-coat plasterwork.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Examine areas and substrates, with Installer present, and including welded hollow-metal frames and structural framing, for compliance with requirements and other conditions affecting performance.

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

3.02 PREPARATION

B. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.

3.03 INSTALLATION, GENERAL

A. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

B. STC-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

1. Seal construction at perimeters, behind control and expansion joints, and at openings and penetrations with a continuous bead of acoustical sealant. Install acoustical sealant at both faces of partitions at perimeters and through penetrations.
2. Comply with ASTM C 919 and manufacturer's written recommendations for locating edge trim and closing off sound-flanking paths around or through assemblies, including sealing partitions above acoustical ceilings.

C. Sound Attenuation Blankets: Where required, install blankets before installing lath unless blankets are readily installed after lath has been installed on one side.

D. Acoustical Sealant: Where required, seal joints between edges of plasterwork and abutting construction with acoustical sealant.

3.04 INSTALLING STEEL FRAMING, GENERAL

A. General: Comply with requirements in ASTM C 841 for applications indicated.

1. Comply with ASTM C 754 for installation of items not addressed in ASTM C 841.

B. Install supplementary framing, blocking, and bracing at terminations in plaster assemblies to support fixtures, equipment services, heavy trim, grab bars, toilet accessories, furnishings, or similar construction.

1. Comply with details indicated on Drawings and with plaster manufacturer's written recommendations.

C. Isolate steel framing from building structure to prevent transfer of loading imposed by structural movement.

D. Do not bridge building control and expansion joints with steel framing or furring members. Frame both sides of joints independently.

E. Soffits: Unless otherwise detailed on Drawings, install furred or suspended soffits to comply with requirements for ceiling installation; install framed soffits to comply with requirements for partition installation.

3.05 INSTALLING STEEL FRAMING FOR CEILINGS

A. Suspend ceiling hangers from building structure as follows:

1. Install hangers plumb and free of 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; 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 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 limit deflection to 1/360 of span while supporting ceiling loads.
3. Wire Hangers: Secure by looping and tying, either directly to structure or directly to fasteners that are secure and appropriate for substrate, in a manner that will not cause them to deteriorate or otherwise fail.

4. Rod and Flat Hangers: Secure to structure, including intermediate framing members, by attaching to fasteners that are secure and appropriate for substrate and hanger, in a manner that will not cause hangers to deteriorate or otherwise fail.
5. Do not support ceilings directly from permanent metal forms. Secure to fastener devices 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 steel framing to or suspend it from ducts, pipes, or conduit.

B. Installation Tolerances: Install steel framing components for ceilings so members are level to within 1/8 inch in 12 feet measured lengthwise on each member and transversely between parallel members.

C. Sway-brace suspended steel framing with hangers used for support.

D. Install steel framing components for ceilings in sizes and spacings indicated but not less than that required by the referenced steel framing and installation standards.

1. Hanger Spacing: As indicated on drawings.
2. Main Runner (Carrying Channel) Spacing: For suspended ceilings as indicated on drawings.
3. Cross-Furring Spacing: For suspended ceilings as indicated on drawings.

3.06 INSTALLING STEEL PARTITION FRAMING

A. Install tracks (runners) at floors, ceilings, and structural walls and columns where plaster assemblies abut other construction.

B. Frame door openings with two studs installed at each jamb, unless otherwise indicated.

C. Support Spacing:

1. Install steel studs at spacing indicated on drawings.
2. Install vertical furring at spacing indicated on drawings.

3.07 INSTALLING METAL LATH

A. General: Install according to ASTM C 841.

B. Expanded-Metal Lath:

1. Partition Framing and Vertical Furring: Install [flat diamond-mesh] [flat rib] lath.
2. Flat-Ceiling and Horizontal Framing: Install [flat diamond-mesh] [flat rib] lath.
3. Curved-Ceiling Framing: Install flat diamond-mesh lath.
4. On Solid Surfaces, Not Otherwise Furred: Install self-furring diamond-mesh lath.

3.08 INSTALLING ACCESSORIES

A. Apply bottom course first, with face out, long dimension at right angles to stud with joints butted together.

B. Cut lath to fit neatly around electrical outlets and openings.

C. Place end joints between studs, staggered in successive courses.

D. Align and support lath ends with clips at top, center and bottom of each joint.

E. Secure lath to studs using two screws per stud, each located 2 inches from lath edge.

3.09 INSTALLING ACCESSORIES

A. General: Install according to ASTM C 841.

B. Corner Beads: Install at external corners.

C. Casing Beads: Install at terminations of plasterwork, except where plaster passes behind and is concealed by other work and where metal screeds, bases, or frames act as casing beads.

D. Control Joints: Install control joints at locations indicated on drawings.

3.10 PLASTER APPLICATION

A. General: Comply with ASTM C 842.

1. Do not deviate more than plus or minus 1/8 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. Bonding Compound: Apply on unit masonry and concrete plaster bases.

END OF SECTION 09210