

**SECTION 09 23 00
GYPSUM PLASTERING**

SPEC WRITER NOTES:

Delete between // // if not applicable to project. Also delete any other item or paragraph not applicable in the section and renumber the paragraphs.

Do not use gypsum plaster in areas where the ceiling and walls will be subjected to frequent moisture or wetting.

Inaccessible Ceilings: At Mental Health and Behavioral Nursing Units, areas accessible to patients and not continuously observable by staff (e.g., patient bedrooms, day rooms), ceilings should be a solid material such as gypsum plaster. This will limit patient access. Coordinate and specify access doors in accordance with Section 08 31 13, ACCESS DOORS AND FRAMES. Access doors are needed to access electrical and mechanical equipment above the ceiling. These doors should be locked to prevent unauthorized access and secured to ceiling using tamper resistant fasteners.

PART 1 - GENERAL

1.1 DESCRIPTION

A. This section specifies metal and gypsum lathing and gypsum plaster.

1.2 RELATED WORK

- A. //Section 01 81 13, SUSTAINABLE CONSTRUCTION REQUIREMENTS: Sustainable Design Requirements. //
- B. Section 08 31 13, ACCESS DOORS AND FRAMES: Access Doors.
- C. Section 05 40 00, COLD-FORMED METAL FRAMING: Steel framing members for attachment of plaster bases.
- D. Section 09 22 16, NON-STRUCTURAL METAL FRAMING Steel framing members for attachment of plaster bases.
- E. Section 09 06 00, SCHEDULE FOR FINISHES: Room finish schedule.
- F. Section 09 24 00, PORTLAND CEMENT PLASTERING: Cement plaster.
- G. Section 09 26 00, VENEER PLASTERING: Veneer plaster.
- H. Lead lined lath: Section 13 49 00, RADIATION PROTECTION.

1.3 TERMINOLOGY

- A. Definitions and description of terms to be in accordance with ASTM C11, ASTM C841, and ASTM C842 and as specified.
- B. Underside of Structure Overhead: In spaces where steel trusses or bar joists are shown, the underside of structure overhead is the underside

of the floor or roof construction supported by beams, trusses, and bar joists.

- C. Self-furring Lath: Metal plastering bases having dimples or crimps designed to hold the back plane of the lath 6 to 10 mm (1/4 to 3/8 inch) away from the plane of the solid backing.
- D. Solid Backing or Solid Bases: Concrete, masonry, sheathing, rigid insulation, and similar materials to which plaster is directly applied.
- E. Wet Areas: Areas of a building where cyclic or continuous exposure to very humid or wet conditions, or in which a dew point condition may occur in the plaster.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. //Sustainable Design Submittals, as described below:
 - 1. //Postconsumer and preconsumer recycled content as described in PART 2 - PRODUCTS. // //
- C. Shop Drawings:
 - 1. Details of floating interior angle unrestrained construction.
 - 2. Details of assembly and anchorage of lath and accessories.
- D. Manufacturers' Literature and Data:
 - 1. Accessories for plaster, each type.
 - 2. Metal plaster bases, each type.
 - 3. Fasteners.
 - 4. Bonding compounds, including application instructions.
 - 5. Admixtures, including mixing and application instructions.
- E. Manufacturers certificates:
 - 1. Gypsum plaster.
- F. Samples: Accessories for plaster, each type, not less than 152 mm (6 inches) long.

SPEC WRITER NOTE: Request plaster sample where color is specified or special finish is required, and where required to match existing special finish conditions. Specify a size to suit requirements, 152 by 305 mm (6 by 12 inches) minimum.

- G. Panel showing finish coat, 152 by 305 // // mm (6 by 12) (// // inches) minimum.
- H. Installer qualifications.

1.5 DELIVERY, STORAGE, AND PROTECTION

- A. Deliver manufactured materials in the manufacturers' original unbroken packages or containers which are labeled plainly with the manufacturers' names and brands. Keep cementitious materials dry and stored off the ground, under cover, and away from sweating walls and other damp surfaces until ready for use.

1.6 PROJECT CONDITIONS

- A. Comply with ASTM C842 requirements.
- B. Maintain work areas at not less than 13 degrees C (55 degrees F) or greater than 27 degrees C (80 degrees F) for not less than one (1) week prior to application of plaster, continuously during application of plaster, and one (1) week after plaster has set or until plaster has dried.

1.7 QUALITY ASSURANCE

- A. Installers qualifications: Work to be performed by installer having a minimum of three (3) years' experience for work relating to this Section.

SPEC WRITER NOTE: Mock-up must be approved by Contracting Officer Representative (COR) in the project's design stage before including requirement in specification.

- B. //Mockup: Build 9.29 square meters (100 square feet) mockup of each substrate and finish texture indicated for gypsum plastering, including accessories. // Simulate finished lighting conditions for review of mockups. // Approved mockups may // not // become part of completed work. //

1.8 PERFORMANCE REQUIREMENTS

- A. Where indicated on construction documents, provide gypsum plaster assemblies identical to those of assemblies tested for fire resistance according to ASTM E119 by a qualified testing agency.
- B. Where indicated on construction documents provide gypsum plaster assemblies identical to those of assemblies tested for STC ratings according to ASTM E90 and classified according to ASTM E413 by a qualified testing agency.

1.9 APPLICABLE PUBLICATIONS

- A. The publications listed below form a part of this specification to the extent referenced. The publications are referenced in the text by basic designation only.

B. ASTM International (ASTM):

A641/A641M-19.....Zinc-Coated (Galvanized) Carbon Steel Wire
A653/A653M-20.....Steel Sheet, Zinc-Coated (Galvanized) or Zinc-
Iron Alloy-Coated (Galvannealed) by the Hot-Dip
Process
C11-18b.....Terminology Relating to Gypsum and Related
Building Materials and Systems.
C28/C28M-10 (2020).....Gypsum Plasters
C35-01 (2019).....Inorganic Aggregates For Use in Gypsum Plaster
C206-14.....Finishing Hydrated Lime
C472-20.....Physical Testing of Gypsum, Gypsum Plaster and
Gypsum Concrete
C631-09 (2020).....Bonding Compounds for Interior Gypsum
Plastering
C841-03 (2018).....Installation of Interior Lathing and Furring
C842-05 (2015).....Application of Interior Gypsum Plaster
C847-18.....Metal Lath
C1002-18.....Steel Self-Piercing Tapping Screws for the
Application of Gypsum Panel Products or Metal
Plaster Bases to Wood Studs or Steel Studs
D3678-19.....Rigid Poly (Vinyl Chloride) (PVC)
Interior-Profile Extrusions
E413-16.....Classification for Rating Sound Insulation
E90-09 (2016).....Test Method for Laboratory Measurement of
Airborne Sound Transmission Loss of Building
Partitions and Elements

C. Commercial Item Description (CID):

A-A-55615-95 (R2006).....Shield, Expansion; (Wood Screw and Log Bolt
Self-Threading Anchor)

PART 2 - PRODUCTS

SPEC WRITER NOTES:

Make material requirements agree with applicable requirements specified in the referenced Applicable Publications. Update and specify only that which applies to the project. Coordinate with Section 09 30 13, CERAMIC TILING for type of setting bed required for ceramic tile. Gypsum plaster may be used for adhesive applied ceramic tile in areas not considered wet.

Do not use gypsum plaster for adhesive applied ceramic tile in areas considered wet such as showers. Portland cement plaster is required for walls and ceilings above ceramic wall tile in showers and similar wet areas. Coordinate with Sections 09 06 00, SCHEDULE FOR FINISHES. Coordinate with Section 09 22 16, NON-STRUCTURAL METAL FRAMING and Section 09 30 13, CERAMIC TILING to clearly define substrate for ceramic tile finish.

2.1 PLASTERING BASES (LATH)

- A. Expanded-Metal Lath: ASTM C847, cold-rolled carbon-steel sheet with ASTM A653/A653M, G60 (Z180), hot-dip galvanized-zinc coating.
 - 1. Paper Backing: Kraft paper factory bonded to back of lath.
 - 2. Diamond-Mesh Lath:
 - a. Type: // Flat // // Self-furring //.
 - b. Weight: // 1.4 kg/square meter (2.5 pound/square yard) // 1.8 kg/square meter (3.4 pound square yard) //.
 - 3. Flat-Rib Lath: Rib depth of not more than 3 mm (1/8 inch), // 1.5 kg/square meter (2.75 pound/square yard) // // 1.8 kg/square meter (3.4 pound square yard) //.
 - 4. 10 mm (3/8-inch) Rib Lath: // 1.8 kg/square meter (3.4 pound/square yard) // // 2.2 kg/square meters (4 pound/square yard) //.
 - 5. //Recycled Content of Metal Products: Post-consumer plus one-half of preconsumer content not less than // 30 // // // percent. //
- B. Gypsum Lath:
 - 1. Sheet; 610 mm x 2438 mm (2 feet. x 8 feet.).
 - 2. 10 mm (3/8 inch) thick.
 - 3. Type "X" for fire rated assemblies.

2.2 GYPSUM PLASTERS

- A. Base Coat: High strength gypsum plaster with a minimum average, dry compressive strength of 19 MPa (2800 psi) according to ASTM C472 for a mix of 45 kg (100 pounds) of plaster and .06 cubic meter (2 cubic feet) of sand.
- B. Finish Coat: High strength gypsum gauging plaster with a minimum average dry compressive strength of 34 MPa (5000 pounds square inch) according to ASTM C472.

2.3 LIME

- A. ASTM C206, Type S.

2.4 AGGREGATES:

- A. Natural sand, except grade aggregates in accordance with ASTM C35, "TABLE 1".
- B. Vermiculite and perlite aggregates are not acceptable, except where required for fire rated assemblies.

2.5 BONDING COMPOUND (FOR INTERIOR WORK)

- A. ASTM C631, except water re-emulsifiable compound is prohibited.

2.6 ACCESSORIES FOR GYPSUM PLASTER

- A. General: Coordinate depth of trim and accessories with thicknesses and number of plaster coats required as per ASTM C841.
- B. Cornerite: Fabricated from expanded-metal lath with ASTM A653/A653M, G60 (Z180), hot-dip galvanized-zinc coating.
- C. Striplath: Fabricated from expanded-metal lath with ASTM A653/A653M, G60 (Z180), hot-dip galvanized-zinc coating.
- D. Cornerbeads: Fabricated from zinc-coated (galvanized) steel.
 - 1. Smallnose cornerbead with expanded flanges; use unless otherwise indicated on construction documents.
 - 2. Smallnose cornerbead with perforated flanges; use on curved corners.
 - 3. Smallnose cornerbead with expanded flanges reinforced by perforated stiffening rib; use on columns and for finishing unit masonry corners.
 - 4. Bullnose cornerbead, radius 19 mm (3/4 inch) minimum, with expanded flanges; use at locations indicated on construction documents.
- E. Casing Beads: Fabricated from zinc-coated (galvanized) steel; square-edged style; with expanded flanges.
- F. 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.

2.7 FASTENERS

- A. Tie wire, screws, staples, clips, nails, and other fasteners ASTM C841, except as otherwise specified.
- B. Provide fasteners for securing metal plastering bases having heads, or inserted through washers large enough to engage two strands (1 on each side of the washer) of the metal plastering base.
- C. For fire rated construction type and size as used in fire rated test.

D. Screws: ASTM C1002.

E. Expansion Shields: CID A-A-55615.

PART 3 - EXECUTION

3.1 APPLYING LATH BASES

- A. Apply lath base in accordance with ASTM C841, except as otherwise specified or shown.
- B. Provide metal plastering bases where plaster is required on partitions, ceilings and furring, // where required for setting ceramic tile in adhesive on gypsum plaster // and for light troughs, beams and other curved or irregular surfaces //.
 - 1. Where plaster is required on solid bases, metal plastering bases are not required, unless shown on the construction documents.
 - 2. Form true surfaces, straight or in moderate curves where shown on construction documents, without sags or buckles and with long dimension of lath at right angles to direction of supports.
 - 3. Shape lathing to within 19 mm (3/4 inch) of finished profiles of irregular surfaces.
 - 4. Terminate lath for ceiling construction at casing bead (Floating Angle Construction) where butting into or penetrated by walls, columns, beams, and similar elements.
- C. Gypsum lath may be used in lieu of expanded metal lath for gypsum plaster only on straight flat surfaces of partitions and walls, and on furring, except for lathing in wet areas and as a base for marble finishes.
- D. Installing Metal Plastering Bases:
 - 1. Select type of expanded metal lath to conform to Table 2 of ASTM C841.
 - 2. Select type of fasteners based upon expanded metal lath type to be installed to conform to Table 1 of ASTM C841.
 - 3. Where metal plastering bases are required over solid backing, provide self-furring, diamond-mesh lath type.
 - 4. Attach self-furring diamond-mesh lath directly to masonry and concrete with hardened nails, power actuated drive pins. Locate fasteners at the dimples or crimps only.
 - 5. Where metal plastering bases are required over steel columns and studless solid plaster partitions supports by L-runners, provide rib lath.

6. Provide rib lath above ceramic tile wainscots where the finish above the wainscot is required to finish flush with the tile face.
7. Do not install continuous plastering bases through expansion and control joints. Terminate plastering base at each side of joint.

3.2 SURFACE PREPARATION OF SOLID BASES

- A. Prepare in accordance with ASTM C842, except as otherwise specified.

SPEC WRITER NOTES:

Read ASTM C842 regarding Conditioning of Surfaces, Monolithic Surfaces. Check concrete spec to see that finish specified will receive plaster. New concrete should not need preparation other than that specified below. Examine condition of existing surfaces to receive plaster and specify only one of following methods for each condition. Where more than one kind of surface preparation is required, list areas where each is applicable.

- B. Terminate concrete form ties and other metal projections not less than 3.2 mm (1/8 inch) below the surface of concrete.
- C. Remove projections and fill depressions, holes, cracks and similar voids flush with patching compound compatible with the substrate and plaster, within the tolerance, specified in ASTM C842.
- D. Clean existing concrete surfaces specified to receive plaster to ensure bonding as specified in ASTM C842.

SPEC WRITER NOTE: Retain bonding compound when direct application of plaster to concrete is required.

- E. Condition new or existing concrete surfaces specified to receive plaster by applying bonding compound as specified in ASTM C842.
- F. Condition // existing, // // new, // // concrete // // masonry // surfaces (solid backing) specified to receive plaster by applying metal plastering base as specified in ASTM C842.

3.3 INSTALLING PLASTERING ACCESSORIES

- A. Install accessories in accordance with ASTM C841, except as follows:
 1. Set plastering accessories plumb, level and true to line, mitered at corners and intersections, and securely attach to supporting surfaces.
 2. Install in one piece, within the limits of the longest commercially available lengths.
 3. Wood plugs are not acceptable anchorage for fasteners.

B. Corner Beads: Install at external plaster corners.

C. Strip Lath:

1. Install centered over joints between dissimilar materials, such as clay tile, brick, concrete masonry units, concrete, and expanded metal // and gypsum // lath. Install where surfaces are required to be plastered and are in contact with each other in same plane, except where expansion joints and casing beads are required.
2. Wire tie, staple, screw, or nail strip lath to base along both edges at not over 152 mm (6 inches) on centers.
3. Reinforce gypsum lath at corners of openings, at internal corners, and at chases and similar breaks in continuity in accordance with ASTM C841.

D. Casing Beads:

1. Provide at locations where plaster terminates against other materials.
2. Provide where indicated in construction documents.
3. Provide where plaster terminates against trim of steel frames and trim of other materials and equipment, except where trim overlaps plaster.
4. Provide where plaster for new walls or furring (vertical or horizontal) terminates against existing construction.
5. Provide around perimeter of openings for recessed casework and equipment, except where edge is covered by flanges. Locate to conform to dimensions shown on approved shop drawings.
6. Both sides of expansion and control joints, unless shown otherwise.
7. Where ceilings butt into or are penetrated by walls, columns, beams, and similar elements so as to provide floating angle (unrestrained) construction in accordance with ASTM C841.

E. Cornerites:

1. Provide at interior corners of walls, partitions, and other vertical surfaces to be plastered, except where lath is carried around angle.
2. Fasten only as necessary to retain position during plastering.
3. Omit cornerites at junction of new plastered walls with existing plastered walls.
4. Provide where metal plastering bases are specified not to be carried around internal angles, and at locations where casing beads are specified and shown.

SPEC WRITER NOTES:

Show and clearly define on drawings locations of control joints.
Detail control joints.
See ASTM C841 for design criteria.

F. Control Joints:

1. Where control joints are placed parallel to framing members, install joints within 101 mm (4 inches) of framing member.
2. Install control joints only to the edges of abutting sheets of lath so that the lath is not continuous or tied across joint.
3. Extend control joints the full width and height of the wall or length of soffit/ceiling plaster membrane.

3.4 GYPSUM PLASTER APPLICATION

A. Proportion, mix, and apply plaster in accordance with ASTM C842.

B. Thickness of Plaster: ASTM C842, except as follows:

1. Where greater thickness is indicated on construction documents.
2. Where thickness is required to match existing.
3. On metal plaster base 19 mm (3/4 inch), except where greater thickness is required for fire rated construction.
4. Apply finish coats to a uniform thickness of approximately 2 mm (1/16 inch) with not more than 3 mm (1/8 inch) thickness at any point.

SPEC WRITER NOTE: Check drawings and omit following subparagraph if casing beads are shown at door frames. Coordinate with specification requirements for casing beads at door frames.

C. Cut 2 mm (1/16 inch) deep V-joint in finish coat of plaster adjacent to metal door frames and wherever plaster finishes flush with other materials, except where casing beads are required. Omit 2 mm (1/16 inch) deep V-joint on walls and partitions where plaster is recessed back from face of door frames, or similar conditions.

D. Plaster to have a smooth-trowel finish unless specified or shown otherwise.

E. Apply gypsum plaster in three (3) coats except as follows: Gypsum plaster applied to // masonry // // gypsum lath // using the two-coat double back method.

F. Gypsum Plaster Base Coat: Apply base coats with sufficient pressure and ensure plaster is sufficiently plastic to provide a strong bond to bases. Work base coats into screeds at intervals from 1524 to 2438 mm (5 to 8 feet). Plaster must not be continuous across expansion and

control joints occurring in walls, partitions, and ceilings. Finish work level, plumb, square, and true, within a tolerance of 3 mm in 2438 mm (1/8 inch in 8 feet) without waves, cracks, blisters, pits, crazing, discoloration, projections, or other imperfections. Form plaster work carefully around angles and contours, and well up to screeds. Take special care to prevent sagging and consequent dropping of applications. There must be no visible junction marks in finish coat where one day's work adjoins another.

1. Gypsum Two-Coat Base Coat: Apply the first coat to cover the base with sufficient material and pressure to form a good bond on the wall or ceiling base. Before the first coat has set and without scratching or cracking the surface, apply a second coat (double back) of the same material proportion as the base coat to the screeds. Straighten to a true surface without application of water, and cross rake or scratch to receive the finish coat.
2. Gypsum Three-Coat Base Coat: Apply scratch coat 5 to 6 mm (3/16 to 1/4 inch) thick to cover the base with sufficient material and pressure to form a good bond on the wall or ceiling base. Rake or scratch the surface and allow to set firm and hard. Apply the brown coat to bring the base coat out to the screeds, compact, and straighten to a true surface without the application of water, and cross rake or scratch to receive the finish coat.

G. Gypsum Plaster Finish Coats: Moderately moisten or fog spray base coat of plaster that has become dry before finish coat is applied. Accelerate plaster, if necessary, to provide a setting time of not more than four (4) hours from the time the plaster is mixed.

1. Lime-Putty and Gypsum Gauged Finish Coat: Apply lime-putty gypsum finish white coat over the base coat, scratch in thoroughly, lay on well, double back, and fill out to a true, even surface. Allow the finish to dry not more than five (5) minutes, then trowel well with water. Apply maximum pressure in order to compact the finish coat and provide a smooth finish free from blemishes and irregularities. Apply trowel finish coats of gypsum-gauged lime-putty over properly prepared base coats as thin as possible and 2 to 3 mm (1/16 to 1/8 inch) thick for conventional plaster system, except as necessary in spots to level out hollows in base coat.

H. Concealed Plaster:

1. Where plaster is concealed behind built in cabinets, furnishings, or equipment, apply finish coat.
2. Where plaster is concealed above ceilings, omit finish coat.
3. Where plaster is used as a base for adhesive application of tile and similar finishes, omit finish coat.

3.5 PATCHING

- A. After all work except painting is finished, point around trim, frames, and similar items.
- B. Patch damaged plaster to match previously applied plaster in color and texture.
- C. Sanding plaster is prohibited.
- D. Patch, alter and replace existing plaster surfaces as required to complete work.

SPEC WRITER NOTE: Include paragraph below where either fire rated, smoke barrier, or sound rated assemblies are required.

- E. //Patching of Rated Construction: Patch holes or openings 13 mm (1/2 inch) or less in diameter, or equivalent size, with patching plaster. Repair holes or openings over 13 mm (1/2 inch) diameter, or equivalent size, with same materials used in construction so as to provide fire protection equivalent to the fire rated construction, STC equivalent to the sound rated construction, and construction that will not permit the passage of smoke. //

3.6 CLEANING AND PROTECTION

- A. Remove temporary protection and enclosure of other work after plastering is complete. Remove droppings or splatterings from other surfaces not indicated to be plastered. Leave clean and in a condition to receive paint or other finish.

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