

**SECTION 09 23 00
GYPSUM PLASTERING**

PART 1 - GENERAL

1.1 DESCRIPTION

This section specifies metal and gypsum lathing and gypsum plaster.

1.2 RELATED WORK

- A. Steel framing members for attachment of plaster bases: Section 05 40 00, COLD-FORMED METAL FRAMING, and Section 09 22 16, NON-STRUCTURAL METAL FRAMING.
- B. Room finish schedule: Section 09 06 00, SCHEDULE FOR FINISHES.
- C. Cement plaster: Section 09 24 00, PORTLAND CEMENT PLASTERING.
- D. Veneer plaster: Section 09 26 00, VENEER PLASTERING.

1.3 TERMINOLOGY

- A. Definitions and description of terms shall be in accordance with ASTM C11, C841, and 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 plane of the back 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. Dew point conditions occur frequently in such areas as laundries, natatoriums, cart and dish washing spaces, hydrotherapy, kitchens, bathing or shower rooms and similar areas.

1.4 SUBMITTALS

- A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Shop Drawings:
 - 1. Details of floating interior angle unrestrained construction.
 - 2. Details of assembly and anchorage of lath and accessories.
- C. 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.
- D. Manufacturers certificates:
 1. Gypsum plaster.
 2. Keene's cement.
- E. Samples: Accessories for plaster, each type, not less than 150 mm (six inches) long. Panel showing finish coat, __6__ by __12__ (inches).

1.5 DELIVERY, STORAGE, AND PROTECTION

ASTM C841 and C842.

1.6 PROJECT CONDITIONS

Maintain work areas at a minimum temperature of 13°C (55°F) for not less than one week prior to application of plaster, during application of plaster and until plaster is completely dry.

1.7 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. American Society for Testing And Materials (ASTM):
 - A641-09.....Zinc-Coated (Galvanized) Carbon Steel Wire
 - C11-10.....Terminology Relating to Gypsum and Related Building Materials and Systems.
 - C28-10.....Gypsum Plasters
 - C35-01 (R2009).....Inorganic Aggregates For Use in Gypsum Plaster
 - C61-00(R2006).....Gypsum Keene's Cement
 - C206-03(R2009).....Finishing Hydrated Lime
 - C472-99(R2009).....Physical Testing of Gypsum, Gypsum Plaster and Gypsum Concrete
 - C631-09.....Bonding Compounds for Interior Gypsum Plastering
 - C841-03(R2008).....Installation of Interior Lathing and Furring
 - C842-05(R2010).....Application of Interior Gypsum Plaster
 - C847-10.....Metal Lath
 - C1002-07.....Steel Self-Piercing Tapping Screws for the Application of Gypsum Panel Products or Metal Plaster Bases to Wood Studs or Steel Studs
 - D3678-97(R2008).....Rigid Poly (Vinyl Chloride) (PVC) Interior-Profile Extrusions
- C. Commercial Item Description (CID):
 - A-A-55615.....Shield, Expansion; (Wood Screw and Log Bolt Self Threading Anchor)

PART 2 - PRODUCTS**2.1 PLASTERING BASES (LATH)**

A. Expanded Metal:

ASTM C847, except as modified by ASTM C841 and this specification.

B. Gypsum Lath:

1. 10 mm (3/8 inch) thick.
2. Type X for fire rated assemblies.

2.2 GYPSUM PLASTERS

A. Base and Finish coats ASTM C28 and ASTM C842, except as otherwise specified.

1. Compressive strength of base coat for high-strength gypsum and Keene's cement finish coat plaster; 25 Mpa (2800 psi) when tested in accordance with ASTM C472.
2. Compressive strength of finish coat (when fully dry) of high-strength gypsum plaster; 35 Mpa (5,000 psi) when tested in accordance with ASTM C472.

B. Keene's Cement for Finish Coats: ASTM C61.

2.3 LIME

ASTM C206, Type S.

2.4 AGGREGATES

- A. ASTM C35, natural sand, except grade aggregates in accordance with "TABLE 1", except sand for Keene's Cement Finish Coat, 100 percent passing a No. 30 sieve.
- B. Vermiculite and perlite aggregates are not permitted, except where required for fire rated assemblies.

2.5 BONDING COMPOUND (FOR INTERIOR WORK)

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

2.6 ACCESSORIES FOR GYPSUM PLASTER

ASTM C841.

2.7 FASTENERS

- A. Tie wire, screws, clips, and other fasteners ASTM C841, except as otherwise specified.
- B. Fasteners for securing metal plastering bases shall have heads, or be through washers large enough to engage two strands 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, of the Type and Class applicable.

PART 3 EXECUTION

3.1 APPLYING LATH BASES

- A. In accordance with ASTM C841, except as otherwise specified or shown.
- B. Use 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 drawings.
 - 2. Form true surfaces, straight or in fair curves where shown, 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. Lath for ceiling construction shall terminate 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 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 metal plastering base to conform to Table 1 of ASTM C841, except as otherwise specified.
 - 2. Where metal plastering bases are required over solid backing, use self-furring, zinc-coated (galvanized) metal plastering base, with vapor permeable backing.
 - 3. Attach self-furring metal lath directly to masonry and concrete with hardened nails, power actuated drive pins, or other approved fasteners. Locate fasteners at the dimples or crimps only.
 - 4. Where metal plastering bases are required over steel columns, use self-furring, diamond mesh, expanded metal lath.
 - 5. Rib lath shall not be used, except 10 mm (3/8 inch) rib lath may be used above ceramic tile wainscots where the finish above the wainscot is required to finish flush with the tile face.
 - 6. Metal plastering bases shall not be continuous through expansion and control joints, but shall terminate at each side of the joint.

3.2 SURFACE PREPARATION OF SOLID BASES

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

- B. Surface of masonry and concrete shall be straight and true so that maximum variation in plane does not exceed 6 mm (1/4 inch), 3 mm (1/8 inch) plus, 3 mm (1/8 inch) minus), in 3 m (10 feet), non-accumulative.
- C. Form ties and other metal projections shall be cut back to slightly below the surface.
- D. Projections shall be removed and depressions, holes, cracks and similar voids shall be filled flush with patching compound compatible with the substrate and plaster, within the tolerance, specified in ASTM C842.
- E. Clean existing concrete surfaces specified to receive plaster to ensure mechanical key as specified in ASTM C842.
- F. Condition new or existing concrete surfaces specified to receive plaster by applying bonding compound as specified in ASTM C842.
- G. Condition existing 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, neatly mitered at corners and intersections, and securely attach to supporting surfaces as specified for metal lath.
 - 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 all vertical and horizontal external plaster corners, as required to establish grounds, and where shown.
- C. Strip Lath:
 - 1. Install metal lath strips centered over joints between dissimilar materials, such as clay tile, brick, concrete masonry units, concrete, and metal and gypsum lath, where both such 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 150 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. Install casing beads at locations where plaster terminates against other materials.
 - 2. Where shown.

3. Where plaster terminates against trim of steel frames and trim of other materials and equipment, except where trim overlaps plaster.
4. Where plaster for new walls or furring (vertical or horizontal) terminates against existing construction.
5. 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. Install casing beads 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. Install at interior corners of walls, partitions, and other vertical surfaces to be plastered, except where metal 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. Where metal plastering bases are specified not to be carried around internal angles, and at locations where casing beads are specified and shown.

F. Control Joints:

1. Where control joints are placed paralleled to framing members, install joints within 100 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 shown.
 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
 5. 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.
- 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 shall have a smooth-trowel finish unless specified or shown otherwise.

E. Finish Coat Locations:

1. Gypsum lime-putty finish: Use for all walls and ceilings not required to have Keene's cement or high-strength gypsum plaster.
2. Keene's cement or high-strength gypsum plaster finish: Use for walls and ceilings in locker rooms, toilets, and scheduled areas.
3. High-strength gypsum plaster finish: Use for walls in all Psychiatric Bedrooms, Psychiatric Day Rooms, and Corridors and Passages in connection therewith.

F. Provide base and finish coats of plaster on walls, partitions, furring, and ceilings where plaster is shown on drawings and scheduled in the room finish schedule, except as follows:

1. Apply base coats of plaster, without finish coat, to portion of metal stud partitions extending above suspended or furred ceilings to underside of structure overhead as follows:
 - a. Two sides of the followings:
 - 1) Fire rated partitions.
 - 2) Smoke partitions.
 - 3) Full height partitions (shown FHP).4)
 - b. One side of the following:
 - 1) Sound rated partitions unless shown otherwise.
 - 2) Furring for pipe and duct shafts, except where fire rated construction is shown.
 - 3) Fire rated partitions shown as having plaster on one side and a different finish on other side.
 - 4) Inside of exterior wall furring or stud construction.
2. In locations other than those noted above, plaster including finish coat is not required on partition surfaces to extend more than 100 mm (four inches) above suspended ceiling.
3. Plaster is required for patching existing plaster surfaces that extend above ceilings where holes occur or penetration openings occur.

G. Apply base coats of plaster, without finish coat, to metal stud partitions in pipe basements; pipe spaces; electric closets; back of casework units and equipment mounted in wall recesses; in spaces where exposed walls are designated, and in spaces where no finish number is shown or scheduled.

H. Omit plaster on masonry and concrete surfaces in following location:

1. Elevator and dumbwaiter hoistways.
2. Soffits of concrete stairs unless otherwise shown.
3. Back of marble wall finish.
4. Back of casework units and equipment mounted in wall recesses.

J. Apply finish coat of plaster on walls and partitions after installation of wainscot in rooms and spaces where other finishes are required such as ceramic tile or marble. Extend all coats of plaster behind adhesive applied ceramic tile scheduled to be applied over gypsum plaster.

3.5 GROUTING HOLLOW METAL DOOR FRAMES

Solidly fill heads and jambs of hollow metal frames in metal stud plaster partitions with plaster grout of same mix used for base coats.

3.6 PATCHING

- A. After all work (except painting) is finished, point around all trim, frames, and similar items.
- B. Patch damaged new 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:
 1. Repair and patch damaged and defective nondecorated smoke barrier, fire rated, and sound rated plaster construction to maintain the integrity of the smoke barrier, fire rated, and sound rated construction.
 2. 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 and STC equivalent to the sound rated construction and construction that will not permit the passage of smoke.

3.7 UNACCESSIBLE 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. 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.

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