

SECTION 09 24 11

PORTLAND CEMENT PLASTER

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Building paper.
- B. Lath.
- C. Exterior cement plaster (stucco).

1.02 RELATED SECTIONS

- A. Ceramic tilework specified in Section 09 30 00 - Tiling.

1.03 MEASUREMENT AND PAYMENT

- A. General: Portland cement plaster work will not be measured separately for payment but will be paid for as part of the Contract lump sum price for Architectural Work.

1.04 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM A653/A653M Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
 2. ASTM B69 Specification for Rolled Zinc
 3. ASTM C150 Specification for Portland Cement
 4. ASTM C206 Specification for Finishing Hydrated Lime
 5. ASTM C847 Specification for Metal Lath
 6. ASTM C897 Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters
 7. ASTM C926 Specification for Application of Portland Cement-Based Plaster
 8. ASTM C932 Specification for Surface-Applied Bonding Agents for Exterior Plastering
 9. ASTM C954 Specification for Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases to Steel Studs from 0.033 in. (0.84 mm) to 0.112 in. (2.84 mm) in Thickness

10. ASTM C1002 Specification for Steel Drill Screws for the Application of Gypsum Board or Metal Plaster Bases

B. International Conference of Building Officials, Uniform Building Code (UBC):

1. UBC Std. 14-1 Kraft Waterproof Building Paper

1.05 REGULATORY REQUIREMENTS

- A. In addition to the foregoing referenced standards, the regulatory requirements that govern the work of this Section include the following governing code:

California Code of Regulations (CCR), Title 24, Part 2, California Building Code, Chapters 14 and 14A, "Exterior Wall Coverings," and Chapters 25 and 25A, "Gypsum Board and Plaster."

1.06 SUBMITTALS

- A. General: Refer to Section 01 33 00 - Submittal Procedures, and Section 01 33 23 - Shop Drawings, Product Data, and Samples, for submittal requirements and procedures.
- B. Shop Drawings: Submit Shop Drawings showing locations of all expansion and control joints in elevation and details of such joints.
- C. Product Data: Submit manufacturer's product data to accompany each manufactured item that requires a sample to be submitted.
- D. Samples:
1. Submit 12-inch-long samples of each type of lath, expansion and control joint, weep screed, corner bead, and other metal accessories to be used in the work.
 2. Submit 8-inch by 10-inch sample panel of proposed cement plaster finish.

1.07 DELIVERY AND STORAGE OF MATERIALS

- A. Deliver manufactured materials in their original packages and containers, bearing name of manufacturer and brand. Store cement, plaster, and lime in assigned room or area and away from damp surfaces. Remove damaged or deteriorated materials from the site.

1.08 PROTECTION

- A. Protect surfaces adjacent to plastering work from spattering or other staining caused by plastering. Surfaces so spattered or stained shall be cleaned to the satisfaction of the Engineer within 24 hours of application.
- B. Protect plaster work from subsequent construction and finishing activities, and maintain protection until acceptance of the work by the Engineer.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Building Paper: At exterior walls and soffits, provide "breathable" weather-resistive barriers as required by the California Building Code, Chapter 14A, Section 1402A.1, conforming with UBC Std. 14-1, Grade D building paper.
- B. Lath:
 - 1. Stucco Netting: Standard No. 18 gage, one inch hexagonal mesh, galvanized stucco lath, self-furring. Plain stucco netting may be used over sheathing and building paper with the use of 1/4-inch furring washers.
 - 2. Expanded Metal Lath: ASTM C847, diamond mesh, expanded copper-bearing steel, galvanized, weighing 3.4 pounds per square yard, self-furring.
- C. Lathing Accessories:
 - 1. Provide corner reinforcement, base, drip, and weep screeds, strip lath, control and expansion joints, soffit vents, and any other accessories indicated or required to complete the installation. Lathing accessories shall be standard manufactured products, manufactured specifically for the purpose.
 - 2. Lathing accessories for exterior cement plaster shall be fabricated from zinc sheet conforming to ASTM B69.
 - 3. Lathing accessories for interior cement plaster shall be fabricated from galvanized steel sheet conforming to ASTM A653/A653M.
 - 4. Control and expansion joints shall be provided with removable tape to prevent plaster from filling the joint.
- D. Lath Tie Wire: No. 18 gage galvanized soft steel wire.
- E. Lath Fastenings: Self-drilling, self-tapping, steel screws, conforming to ASTM C954 or ASTM C1002, as applicable for type of metal framing, of required lengths. Include metal washers for engaging lath and furring washers for spacing stucco netting 1/4 inch from sheathing board or metal framing as applicable.
- F. Portland Cement: ASTM C150, Type II, low alkali.
- G. Aggregate: ASTM C897.
- H. Lime: ASTM C206.
- I. Water: Fresh, clean and potable, and free from such amounts of mineral and organic substances as would adversely affect the hardening and strength of cement plaster.
- J. Exterior Cement Plaster (Stucco) Finish Coat: Cement-lime cement plaster (stucco) finish coat or an approved manufacturer's prepared premixed cement plaster (stucco) finish coat, meeting requirements of ASTM C926, for stucco, in sandfloat finish. Exact texture shall be as selected and approved by the Engineer from samples prepared and submitted by the Contractor.

- K. Fiber Reinforcement: Chopped strands of alkali-resistant polypropylene fiber, 1/2- inch long, for use in scratch coat only.
- L. Bonding Agent: ASTM C932, for bonding of cement plaster to concrete or masonry substrate.

PART 3 - EXECUTION

3.01 APPLICATION OF BUILDING PAPER

- A. Apply building paper, before lathing, over all exterior sheathing board for surfaces to receive cement plaster (stucco) in compliance with the California Building Code, Chapter 14, Section 1402, Chapter 14A, Section 1402A, Chapter 25, Section 2506 and Chapter 25A, Section 2506A. Apply building paper over sheathing in two separate layers or plies, as follows:
 1. Apply first layer over sheathing horizontally, lapping sides 2 inches to weather and 6 inches at ends. Secure sufficiently with staples, or other acceptable fasteners, to hold in place without sagging until second layer is applied.
 2. Apply second layer over first layer, again horizontally, lapping sides 6 inches to weather and ends 6 inches. Secure sufficiently with staples to hold in place without sagging until lath is applied. Horizontal joints of second layer shall not occur directly over horizontal joints of first layer.

3.02 APPLICATION OF LATH

- A. Apply stucco lath directly over sheathing and framing members with screws specified, spaced not more than 6 inches apart vertically and 16 inches apart horizontally, directly over framing members. Screws shall engage the lath securely with washers as required. Laps of stucco lath shall be 1 inch minimum and shall be laced with 18 gage galvanized soft steel wire. If plain or standard stucco netting is used, apply in same manner, except that fasteners shall include furring washers.
- B. At soffits, use 3.4 pound galvanized expanded metal lath, reinforced with standard 18 gage stucco netting applied over the expanded lath with screws and furring washers. Apply expanded metal lath directly over building paper and sheathing, and then apply stucco netting directly over expanded metal lath, fastening both securely 6 inches on center directly to framing (through sheathing). All laps shall be securely laced with tie wire.
- C. Install all required plaster grounds, base, drip, and weep screeds, corner reinforcement, special stops, control joints, strip lath, soffit vents, and other metal accessories. Apply and shim out to required thickness. Set plumb, level and straight, free of kinks and bends. Install casing beads or stops at edges of plaster continuously. Provide expansion joints where indicated. Provide control joints where indicated, or if not indicated, in accordance with the following requirements:
 1. Where dissimilar substrate materials meet, such as concrete or concrete block and metal studs.
 2. In line with control joints in masonry substrate.

3. Above and in-line with door jambs.
 4. In any wall or ceiling area bounded by expansion or control joints otherwise required, provide control joints on a regular pattern so that the total area bounded by control or expansion joints does not exceed 100 square feet.
 5. Obtain the Engineer's approval of locations before installing control joints.
- D. Make intersections and splices of lathing accessories in accordance with manufacturer's instructions. When horizontal and vertical expansion and control joints meet, make the vertical joint unbroken.
- E. Break lath behind expansion and control joints. Do not fasten opposite sides of expansion and control joints to a monolithic backing material. Where cement plaster is backed by studs, provide a stud on either side of the joint.

3.03 APPLICATION OF EXTERIOR CEMENT PLASTER (STUCCO)

A. General Requirements:

1. Exterior cement plaster shall be applied in three-coat work to a minimum thickness of 7/8 inch, and shall be finished in texture matching the approved sample or job mockup.
2. Scratch coat ingredients shall include glass fiber or polypropylene fiber reinforcement at the rate of 1-1/2 to 2 pounds per 94 pound bag of cement.
3. Proportions of portland cement, lime, and aggregate shall be within the limits specified in ASTM C926.

B. Application:

1. Scratch Coat: Scratch coat shall be applied to minimum thickness of 3/8 inch, completely embedding the lath. Scratch coat shall be scratched horizontally to provide mechanical key, and properly cured before applying brown coat.
2. Brown Coat: Brown coat shall be applied to minimum thickness of 3/8 inch in two applications and shall be brought to a true, even plane by rodding and floating, and shall be left rough and ready to receive the finish coat. Scratch coat shall be dampened to provide suction before applying brown coat. Brown coat shall be properly cured before applying finish coat.
3. Finish Coat: Finish coat shall be laid out to permit the completion of an entire surface in one operation. Finish coat shall be applied to minimum thickness of 1/8 inch, or in such thickness as may be necessary to ensure the full thickness specified. Brown coat shall be dampened evenly to provide suction before applying finish coat.

- C. Application Over Concrete or Masonry: Where cement plaster is to be applied directly over concrete or masonry, only brown coat and finish coat are required. Substrate surfaces shall be roughened as necessary and cleaned, and a bonding agent shall be applied, in accordance with manufacturer's instructions, before applying the brown coat.

3.04 WORK QUALITY

- A. Finished surfaces shall be uniform as to texture and color throughout the area. Intersections of planes shall be sharp and accurate. Plane surfaces shall be finished plumb, straight, and true to plus or minus 1/8 inch when tested with an 8-foot straightedge.
- B. Where plaster stops, screeds, control or expansion joints, angles, wall panels, or other features are employed for architectural treatment, panels framed by these accessories or other construction shall be finished in one operation. No stopping vertically or horizontally in the middle or intermediate area of a panel will be permitted.
- C. Imperfections that occur after curing and drying shall be properly repaired.

3.05 CURING AND PROTECTION OF PLASTER

- A. Comply with applicable requirements of ASTM C926. Each coat of cement plaster shall be moist cured by application of fine fog spray for a minimum period of four days. Moistening shall begin as soon as the plaster has hardened sufficiently. Soaking of walls shall be avoided.
- B. Apply only as much water as will be readily absorbed. Protect plaster from uneven and excessive evaporation during hot, dry weather. Provide for curing of plaster on Saturdays, Sundays, and holidays, if necessary.
- C. Protect cement plaster against damage from cold or too rapid drying or from any other cause.

END OF SECTION 09 24 11