

SECTION 09220
PORTLAND CEMENT PLASTER

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 - General Requirements, apply to work specified in this Section.

1.2 SECTION INCLUDES:

- A. The extent of the plasterwork is shown on the drawings and in schedules. The type of plastering required includes:
 - 1. Portland Cement Plaster (Stucco).
 - 2. Smooth, aggregate and special rendered surface finishing.

1.3 REFERENCES

- A. ASTM C91 – Standard Specification for Masonry Cement
- B. ASTM C150 – Standard Specification for Portland Cement
- C. ASTM C206 – Standard Specification for Finishing Hydrated Lime
- D. ASTM C207 – Standard Specification for Hydrated Lime for Masonry Purposes
- E. ASTM C631 – Standard Specification for Bonding Compounds for Interior Plastering
- F. ASTM C665 – Standard Specification for Mineral Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing
- G. ASTM C897 – Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plasters
- H. ASTM C926 – Standard Specification for Application of Portland Cement-Based Plaster
- I. ASTM E119 – Standard Test Methods for Fire Tests of Building Construction and Materials
- J. NTMA - National Tile and Marble Association
- K. PCA (Portland Cement Association) - Plaster (Stucco) Manual
- L. Florida Building Code.

1.4 SYSTEM DESCRIPTION

- A. Fabricate vertical elements to limit finish surface to 1/180 deflection under lateral point load of 100 lbs.
- B. Fabricate horizontal elements to limit finish surface to 1/260 deflection under superimposed dead loads and wind uplift loads.

1.5 QUALITY ASSURANCE:

- A. Cement Plaster: Perform work in accordance with ASTM C926.
- B. Allowable Tolerances: For flat surfaces, do not exceed 1/8" to 10'-0" for bow, warp, plumb or level, including surfaces to receive applied finishes (tile, etc.).
- C. This Contractor shall make sample panels at the building at least 4' x 4' of each type of plasterwork. The Architect and Owner shall accept the panels before any work is begun on the building. The accepted panels will be a basis for all work.
- D. Applicator shall show proof of specializing in lath and plaster work for a minimum of 5-years.

1.6 SUBMITTALS:

- A. Submit under the provisions of Section 01300.
- B. Manufacturer's Data Plaster: For information only, submit copies of the manufacturer's product specifications and installation instructions for each material, and include other data as may be required to show compliance with these specifications. Distribute an additional copy of each installation instruction to the Installer.

1.7 REGULATORY REQUIREMENTS

- A. Conform to ASTM E119 and applicable code for fire rated assemblies as follows:
 - 1. Fire Rated Partitions: Listed assembly by UL or FM.
 - 2. Fire Rated Ceiling and Soffits: Listed assembly by UL or FM
 - 3. Fire Rated Structural Column Framing: Listed assembly by UL or FM.
 - 4. Fire Rated Structural Beam Framing: Listed assembly by UL or FM.

1.8 PRODUCT HANDLING:

- A. Except for sand and water, deliver materials to the site in sealed containers or bags fully identified with manufacturer's name, brand, type, and grade. Store all materials in a dry, well-ventilated space, under cover and off the ground.

1.9 JOB CONDITIONS:

- A. Installer must examine surfaces that are to receive plaster, repair, alter and prepare surfaces to insure a timely completion of the work. Do not proceed with the plasterwork until unsatisfactory conditions have been corrected in a manner acceptable to the Installer and Architect.
- B. Temporary Heat and Ventilation: Comply with ANSI A42.1 and A42.2 as applicable to the work.
- C. Do not apply plaster when ambient temperature is less than 50°F both during installation and until cured.
- D. Protect contiguous work from soiling, spattering, moisture deterioration and other harmful effects, which might result from plastering.

PART 2 PRODUCTS

2.1 PLASTER BASE COAT MATERIALS:

- A. Cement: ASTM C150, Type I Portland.
- B. Lime: ASTM C206, Type S.
- C. Aggregate: In accordance with ASTM C897.
- D. Water: Clean, fresh, potable and free of mineral or organic material that may affect plaster.
- E. Bonding Agent
- F. Bonding Agent: ASTM C631; type recommended for bonding plaster to concrete and concrete masonry surfaces.
- G. Admixtures: Air entrainment.

2.2 PLASTER FINISH COAT MATERIALS:

- A. Cement: As specified for plaster base coat.
- B. Lime: As specified for plaster base coat.
- C. Color Pigment: Mineral oxide.
- D. Water: Clean, fresh, potable and free of mineral or organic matter that can affect plaster.

2.3 CEMENT PLASTER MATERIALS (STUCCO):

- A. Job mixed Stucco - Mix bondcrete or mortarseal mason's lime with Portland cement and sand according to ASTM C926, in Portland cement: lime: sand ratios (bags: bags: cu ft) as follows:
 - 1. Basecoat - Scratch coat 1:1:8 and Brown coat 1:1:10.
 - 2. Finish - Apply exterior stucco finish in accordance with U.S. Gypsum data sheet P-541.
 - 3. Skim Coat: Provide smooth textured skim coat where scheduled on drawings.
 - 4. Finish Texture: As shown on the drawings and/or finish schedule.

PART 3 EXECUTION

3.1 PREPARATION FOR PLASTERING:

- A. Clean plaster bases and substrates to be plastered, removing loose materials, coatings, and other substances that might impair the work.
- B. Etch concrete and masonry surfaces indicated for direct plastering. Wet surface, scrub with acid etch solution, and rinse thoroughly; repeat if necessary for adequate plaster bond.
- C. Apply dash-coat on concrete surfaces indicated for direct plastering, and moisture-cure for 2 days.
- D. Apply bonding agent on interior concrete surfaces indicated for direct plastering; comply with manufacturer's instructions.
- E. Cover chases and similar openings in the surfaces to receive plaster with metal lath strip reinforcing, extending not less than 6" beyond edges of opening. Securely fasten lath along edges.
- F. Install temporary grounds and screeds as required to control plaster thickness and comply with tolerances.
- G. Install plastering accessories, anchored to substrates 8" o. c. along each flange. Miter corners and spline joints to form tight accurate joints without offsets. All accessories shall have screws installed at a maximum of 4'0" o. c. as well as clinched into place.
 - 1. Install resilient-edged casing beads for interior work against exterior-wall door and window frames, and at similar locations as indicated.
 - 2. Control Joints: Install control joints at locations indicated, or if not indicated, at locations complying with the following criteria and approved by Architect.
 - a. Where an expansion or control joint occurs in surface of construction directly behind plaster membrane.
 - b. Where distance between control joints exceed 10' in either direction.
 - c. Where area within panels exceed 100 sq.ft.
 - d. Where panel sizes or dimensions change. Extend joints full width or height of plaster membrane.
- H. Surface Conditioning: Immediately before application of plaster that is to be bonded to concrete or masonry, except where bonding agent is to be used, dampen the surfaces sufficiently to obtain optimum plaster suction.

3.2 INSTALLATION OF PLASTER:

- A. General: Comply with ASTM C926; except comply with manufacturer's instructions where more detailed or more stringent.
- B. Plaster Thickness and Number of Coats:
 - 1. Thickness on Vertical Surfaces: Except as otherwise indicated or specified, the minimum thickness of plaster as measured from face of lath, masonry, or concrete to finished plaster surfaces shall be as follows:
 - a. Exterior Portland Cement Plaster: $\frac{5}{8}$ ".
 - b. Interior Portland Cement Plaster: $\frac{7}{8}$ ".
 - c. Plaster on unit masonry surfaces: $\frac{1}{2}$ ".
 - d. Plaster on concrete surfaces: $\frac{5}{8}$ ".
 - e. Plaster skim coat on interior masonry surfaces: $\frac{1}{4}$ ".
 - 2. Thickness on Horizontal Surfaces: Per ASTM C926
 - 3. Number of Coats: Plaster on unit masonry surfaces 2 coats; on concrete or applied over bonding agents, 3 coats; doubling back with brown coat over scratch coat before it is partially dry and set will not be permitted on 3 coat work.
- C. Mechanically mix plaster materials at the project site; do not hand mix except where small amounts are needed, using less than one bag of plaster material.
- D. Sequence plaster installation properly with the installation and protection of other work, so that neither will be damaged by the installation of the other.
- E. Apply skim-coat plaster with a minimum thickness scratch and leveling coat and a normal minimum thickness finish coat.
- F. Cure Portland Cement Plaster by maintaining each coat in a moist condition for two days following application; keep enclosed and fog-spray (after initial set) as required to prevent dry-out.

3.3 CUTTING AND PATCHING:

- A. Cut, patch, point-up and repair plaster as necessary to accommodate other work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, excessive crazing and check crackling, dry-outs, efflorescence, sweat-outs, and similar defects, including areas of the work which do not comply with specified tolerances, and where bond to the substrate has failed. Sand smooth-trowel finishes lightly to remove trowel marks and arises.

3.4 CLEANING AND PROTECTION:

- A. Remove temporary protection and enclosure of other work. Promptly remove plaster from doorframes, windows, and other surfaces that are not to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged from plastering work. When plastering work is complete, remove unused materials, containers, and equipment, clean floors of plaster debris.
- B. Installer shall advise the Contractor of requirements for the protection of plaster from deterioration and damage during the remainder of the construction period.

END OF SECTION