SECTION 09 24 00 - GUIDE SPECIFICATION FOR PORTLAND CEMENT PLASTER ON CONCRETE/MASONRY WALLS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes: Work includes all labor, materials, and equipment necessary to install all aspects of a 2-coat portland cement plaster assembly for use on solid concrete or masonry bases .

B. Related Sections *[Delete unneeded sections.]*

C. 03 00 00 Concrete

D. 04 00 00 Masonry

E. 04 22 00 Concrete Unit Masonry

F. 07 00 00 Thermal and Moisture Protection

G. 07 90 00 – Joint Sealers

H. 09 20 00 Plaster and Gypsum Board

1.02 REFERENCES *[Delete unneeded references.]*

A. ASTM C150 – Portland Cement

B. ASTM C206 – Finishing Lime

C. ASTM C207 – Hydrated Lime

D. ASTM C144/C897 – Aggregate for Job-Mixed Portland Cement-Based Plaster

E. ASTM C926 – Application of Portland Cement-Based Plaster

F. ASTM C1063 – Installation of Lathing and Furring for Portland Cement Based Plaster

G. ASTM C1116 – Fiber Reinforcement

H. PCA (Portland Cement Association) – Plaster (Stucco) Manual

1.03 ASSEMBLY DESCRIPTION

A. General: Two-coat portland cement plaster over masonry including dash bond coat, polymer-modified fiber-reinforced base coat, and a polymer-modified finish coat. Nominal thickness is ½ to 5/8 inch.

B. Application Methods: The plaster may be applied by hand tools or machine pumps but must be applied with sufficient pressure to adhere to the substrate.

C. Masonry and concrete shall be sound, free of coatings, sealers or contaminants that may inhibit adhesion, cured minimum 28 days.

D. Thicknesses of plaster are considered nominal measurements.

1.04 SUBMITTALS

A. Product Data: All product data sheets, details, and warranty information that pertain to the project in accordance with Submittal Procedures.

B. Samples: Submitted upon request.

C. Samples of the finish coat shall be of an adequate size as required to represent each color and texture to be utilized on the project and produced using the same techniques and tools required to complete the project. No sample shall be less than 12" by 12".

D. Retain approved samples at the construction site throughout the application process.

E. Submit a lineal price for additional control joints beyond what is indicated on drawings.

1.05 QUALITY ASSURANCE

A. Qualifications:

1. Manufacturer: All plaster component materials shall be by Edison Coatings, Inc., 3 Northwest Drive, Plainville, CT 06062, www.edisoncoatings.com .

2. Plastering Contractor: Work is to be performed by installer having a minimum of five (5) years' experience as the same business entity for work relating to this Section. Submit installer qualifications.

   a. Provide proof of current contractor's license and bond where required.

B. On-Site Mock-Ups: A minimum 10' x 10' mockup shall be produced for each type of installation and finish, using the same quality/techniques to be utilized on the project.

C. Retain approved mock-up at job site throughout the application process.

DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver all materials to the construction site in their original, unopened packaging with labels intact.

B. Inspection: Inspect the materials upon delivery to assure that specified products have been received. Report defects or discrepancies to the responsible party according to the construction documents; do not use reported material for application.

C. Storage: Store all products per manufacturer's recommendations. Generally, store materials in a cool, dry location; away from direct contact with the ground and/or concrete; out of direct sunlight; and protect from weather and other damage.

1.06 PROJECT CONDITIONS

A. Environmental Requirements: Follow product manufacturer's recommendations for environmental conditions and surface preparation.

B. Temperatures: Before, during and following the application of the portland cement plaster, the ambient and surface temperatures must remain above 40 degrees F (4 C) for a minimum period of 24 hours. Protect stucco from uneven and excessive evaporation, especially during hot, dry and/or windy weather. Protect the portland cement plaster from freezing for a period of not less than 24-hours after set has occurred.

C. Substrates: Prior to installation, inspect the wall for surface contamination, bond breakers, or other defects that may adversely affect the performance of the materials, and shall be free of foreign matter. Do not apply the portland cement plaster to substrates with temperatures less than 40 degrees F (4 C) or that contain frost or ice.

D. Inclement Weather: Protect applied material from deleterious effects until cured or dry.

E. Existing Conditions:

a. Contractor shall walk the project prior to starting work and notify the architect or owner's representative of any deficiencies that will negatively impact the plaster or parge coating. Do NOT proceed until remedied and contractor can provide warranty.

b. Contractor shall advise architect of any horizontal surfaces with inadequate slope.

F. Jobsite Resources: Notify architect if General Contractor fails to provide access to electrical outlets, clean, potable water, and a suitable and safe work area at the construction site throughout the application of the lath and portland cement plaster.

G. Good Practice: During the rainy season, colored finish plaster can be damaged if the gutters and downspouts are not in place. It is recommended to have gutters and downspouts installed as soon as possible after final plastering is complete.

1.07 SEQUENCING AND SCHEDULING

A. Sequencing: Coordinate the installation of the lath and portland cement plaster with all other construction trades. To reduce stucco cracking, insure the concrete/masonry substrate is cured a minimum of 28 days and not saturated prior to plastering.

B. Plastering contractor shall request and attend a pre-installation meeting with architect to advise architect of any control/expansion joint layout concerns. There shall be no cost to the owner for moving one-piece control joints prior and up to this meeting date, additional lineal footage of control joints from plans shall warrant a change order.

C. Staffing: Provide sufficient manpower and proper supervision to ensure continuous operation, free of cold joints, scaffolding lines, curing, variations in texture, etc.

1.08 WARRANTY

A. Warranty: Submit documentation on all products. At completion of work, contractor shall provide a written warranty documentation for the assembly and products used.

B. Warranty Length: Manufacturer shall provide a Limited Warranty for materials replacement for a period of 10 years following substantial completion of each installation.

C. Contractor shall warranty labor and workmanship for a period of 2 years following substantial completion of each installation.

1.09 MAINTENANCE

A. The following materials shall be presented to the owner following the application of the work:

a. One container of finish for each color and texture utilized on the project.

b. Supply a maintenance program for Owners O&M manual as required.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

A. All stucco mixes, admixtures and bonding agents shall be as manufactured by Edison Coatings, Inc., 3 Northwest Drive, Plainville, CT 06062 www.edisoncoatings.com

B. Lath and Trim Accesories

a. Stockton Products

b. Structa Wire

c. Tree Island/K-Lath

d. Fry reglet

e. Plastic Components

2.02 BASECOAT

A. CEM-PLAST 54 BASE with fiber reinforcement

a. Cement: Portland cement complying with ASTM C150.

b. Lime: Hydrated Lime complying with ASTM C207.

c. Sand: Sand shall comply with ASTM C144 or C897.

d. Fiber: Complying with ASTM C1116

B. Water: No water is used in the specified system.

C. Admixture: ICE -9 RL as manufactured by Edison Coatings, Inc., www.edisoncoatings.com

2.03 ACCESSORIES

[Delete the accessories from this section as needed.] Refer to SMA website for current approved product list.

A. Sealants: **[Polyurethane, polyurethane modified, polysulfide, or silyl-terminated polyether elastomeric sealant complying with ASTM C920 or 100% silicone]**.

B. Flashing (by others) : Flashing complying with IBC Section 1405.4 (2013) or IRC Section R703.8, as applicable, WRB must integrate in a “Shingle Fashion ” with flashings.

C. Fasteners: Nails, staples, or screws used to rigidly secure lath and associated accessories shall be corrosion-resistant and meet the minimum requirements of ASTM C1063.

D. Zinc and Zinc-Coated (Galvanized) Accessories: The following accessories shall be fabricated from **[zinc] [or] [zinc-coated (galvanized) steel [pure zinc trims are most corrosion resistant, but much more susceptible to damage and more expensive. Typically limited to ocean front projects]]**.

E. Corner Aid: Minimum 26-gauge thick; expanded flanges shaped to permit complete embedding in plaster; minimum 2 in. wide; **[Square-edge] [Bull-nose]** style; use unless otherwise indicated. [for extra corrosion protection , trims can be double zinc dipped, extra charges will occur, specify PVC nose for acrylic finish coats]

F. Strip Mesh: Metal Lath, 3.4 lb/yd^2 expanded metal; 6 in. wide x 18 in. long.[used as “butterflies” to minimize re-entrant cracking]

G. Casing Bead: Minimum 26-gauge thick; thickness governed by plaster thickness; maximum possible lengths; expanded metal flanges, with square edges.

H. Drip Screed: Minimum 26-gauge thick, depth governed by plaster thickness, minimum 3-1/2 in. high flange, maximum possible lengths.

I. Control and Expansion Joints: Depth to conform to plaster thickness; use maximum practical lengths.

J. Control Joints: One-piece-type, folded pair of unperforated screeds in **<insert shape: M-shaped, double V, etc.>** configuration; removable protective tape on plaster face of control joint.

K. Expansion Joints: [Two-piece-type formed to produce a slip-joint.] [Pair of casing beads with sealant between.]

L. Plastic Trim: Fabricated from high-impact PVC.

M. Cornerbeads: With perforated flanges. **[Square-edge] [Bull-nose]** style; use unless otherwise indicated.

N. Casing Beads: With perforated flanges in depth required to suit plaster bases indicated and flange length required to suit applications indicated. **<insert style>** style; use unless otherwise indicated.

O. Control Joints: One-piece-type, folded pair of unperforated screeds in **<insert shape: M-shaped, double V, etc.>** configuration; removable protective tape on plaster face of control joint.

P. Expansion Joints: [Two-piece-type formed to produce a slip-joint.]

2.02 FINISHES

A. **CEM-PLAST 54 Finish, by Edison Coatings, Inc., www.edisoncoatings.com**

1. Cement: Portland cement complying with ASTM C150.
2. Lime: Hydrated Lime complying with ASTM C207.
3. Sand: Sand shall comply with ASTM C144 or C897.
4. Water: No water is used in the specified system.
5. Admixture: ICE -9 RL as manufactured by Edison Coatings, Inc., www.edisoncoatings.com

B. Color and Texture: Color and finish texture shall be as approved by the Architect.

PART 3 - EXECUTION

EXAMINATION

A. Prior to the application of the portland cement plaster basecoat the plastering contractor shall ensure that:

B. Surface and site conditions are ready to receive work.

C. Grounds and Blocking: Verify that the items within the walls for other sections of work have been installed.

D. Notify architect/owner of any defects that may impact the finished assembly. Proceed as directed.

E. Substrates:

1. Acceptable substrates must be sound, secure and suitable for plaster.

2. Substrates and adjacent materials must be dry and clean. Substrate surface must be flat, free of protrusions or planar irregularities greater than ¼-nch in 10-feet (6mm in 3m).

F. Flashings/Sealant joints: All flashing or sealant joints around windows, at deck attachments, utility penetrations, roof lines, etc. and all kick-out flashing must be properly installed prior to application of portland cement plaster. Notify owner if flashings are missing, proceed as directed.

G. Casing bead shall be applied around all penetrations with a minimum ¼ inch to maximum ¾ inch gap to receive a backer rod and sealant. Gap width will depend on conditions.

H. Unsatisfactory conditions or concerns shall be reported to the general contractor and/or builder and/or architect and/or owner. Do not proceed until directed in writing by architect or general contractor.

PREPARATION

A. Substrate: inspect all work prior to starting lath and plastering. Notify architect of any issues impacting performance, proceed as directed.

B. Surrounding Areas: Protect surfaces near the work of this section from damage, disfiguration, and overspray. Mask off all dissimilar materials.

INSTALLATION, GENERAL

A. General Installation: Refer to ASTM C926, ASTM C1063, and/or the appropriate manufacturer's product data sheet for additional installation requirements and recommendations.

INSTALLING TRIMS

A. General: Installed per ASTM C1063 or per Architect's direction. Trims shall be full length and installed plumb/level to within 1/8 inch in eight (8) feet.

B. Trims shall be attached per the trim manufacturer's instructions; Do not exceed 24 inches on center spacing.

C. Control Joints: Installed per Architect's direction.

D. Expansion Joints: Install per Architect's direction.

E. Contractor shall carry through existing control or expansion joints in substrates.

F. Use wire nose corner for cement finish.

G. All trims shall be securely fastened to prevent movement or shifting during plastering.

INSTALLING PORTLAND CEMENT PLASTER

A. All installation is to be performed in conformance with ASTM C926. The following are additional technical notes, but do not represent a complete procedure.

1. Per ASTM C926, apply portland cement plaster by hand-troweling or machine-spraying to a nominal thickness of ½ inch for direct application to masonry substrates. Concrete should be skim only, unless leveling is required. Reference Table 4 in ASTM C926 regarding application thicknesses.
2. Separation must be provided where plaster abuts dissimilar materials or openings.
3. Each plaster coat must be applied toan entire wall without interruption to avoid cold joints and abrupt appearance changes.

B. Apply dash bond coat followed by fiber-reinforced base coat, followed by finish coat. Each coat shall be permitted to set before the next coat is applied. Plaster coats that have become dry shall be evenly dampened with water prior to applying subsequent coats.

C. Curing: Polymer-modified plaster is self-curing and does not require misting. Under dry, hot and/or windy conditions protect the plaster from drying too rapidly by shading or draping damp burlap over the surface

INSTALLING FINISH COAT

A. General: Mix and apply per manufacturer's product data sheet and ASTM C926.

B. Do not apply to soft, contaminated or frozen basecoat.

C. Avoid applying to excessively hot walls.

D. Verification: Verify the desired color, material and texture to match the approved sample and/or mock-up prior to installation.

E. Avoid scaffold lines and cold joints

F. Fog coat (cement finish only) as needed to blend color variations

G. Finish coat shall be free of eye catching imperfections.

CLEANING/PATCHING/TOLERANCE

A. Cleaning: Remove any and all materials used, overspray from adjacent surfaces, and all protective masking.

B. Patch and repair as needed, including but not limited to fog coating, imperfections and blisters.

C. Cracks shall be repaired per system manufacturer's instructions.

D. The basecoat of plaster shall be in tolerance:

1. Residential: Not to exceed ¼ inch in eight (8) feet
2. Commercial: Not to exceed ¼ inch in ten (10) feet

E. Eye catching variations in color or texture pattern will not be accepted.

PROTECTION

Protection: Protect applied material from inclement weather until dry and prevent it from freezing for a minimum of 24-hours after set and/or until dry. Refer to manufacturer's product data sheet for additional requirements.

END OF SECTION 09 24 00