The following standard specification is intended to be edited according to the specifics of the project. Brackets [ ] and areas shaded in gray [e.g. format] indicate requirements that are optional depending upon the type of system being provided or per instructions associated with the [ ] and project requirements. Consult with University's Representative and campus stakeholders.

DOCUMENT UTILIZES TRACK CHANGES TO RECORD YOUR CHANGES AS YOU EDIT.
DO NOT CHANGE THE FOOTER OF THE DOCUMENT

SECTION 09 24 00 PORTLAND CEMENT PLASTERING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes three-coat exterior portland cement plasterwork (stucco), including the following:

1. Scratch coat
2. Brown coat
3. Lamina base coat with continuous embedded fabric

1.2 RELATED SECTIONS

A. Section 01 31 10 Project Meetings

B. Section 01 43 00 Quality Assurance

C. Section 01 43 39 Mock-ups

D. Section 01 60 00 Product Requirements

E. Section 07 25 00 Water Resistive Barrier System

F. Section XX XX XX Joint Sealants

G. Section XX XX XX Exterior Finish Schedule

H. Section 09 22 36.23 Cement Plaster Lathing and Lath Accessories

1.3 SUBMITTALS

A. Installer qualifications and experience.

B. Product Data: For each product indicated.

C. Installation: Provide information regarding intended application means and methods of complying with specified moist curing requirements. If using other methods of application, certify that products and applications comply with specified requirements.

Note to Specifier: Coordinate LEED submittal requirements with the project's LEED goals and rating system.

D. LEED Submittals:

1. Credit MR 4.1 and Credit MR 4.2: For products having recycled content, documentation indicating percentages by weight of postconsumer and preconsumer recycled content.
   a. Include statement indicating costs for each product having recycled content.
2. Credit EQ 4.1: For adhesives and sealants, including printed statement of VOC content.

E. Finish coat samples for Initial Selection: Manufacturer's standard color charts and small scale samples indicating color and textures available.

F. Finish coat samples for Verification Purposes: 24-inch x 24-inch square samples for each finish, color, and texture; prepare using same tools and technique to be used for installation.

1.4 QUALITY ASSURANCE

A. Installer shall have 5 years of documented previous plastering experience on at least 5 similar scope projects, using the specified or generically comparable materials.

B. Comply with current building code requirements.

C. Comply with ASTM C926 Standard Specification for Application of Portland Cement Based Plaster recommendations.

D. Perform Work in accordance with current Portland Cement Association *Plaster/Stucco Manual EB049* and ACI 524-R *Guide to Portland Cement Based Plaster*.

E. Fire-Resistance Ratings: Where indicated, provide portland cement plaster assemblies identical to those of assemblies tested for fire resistance per ASTM E119 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Indicate design designations from UL's "Fire Resistance Directory".

F. Mock-ups: Provide products, assemblies, and related materials for composite mock-ups specified in Section 01 43 39 Mock-ups. Test completed mock-up exterior wall cladding assemblies for water penetration performance following CBC 1403.2 to the code prescribed minimum pressure or the building design pressure, whichever is greater.

G. Finish Coatings shall have been tested to meet or exceed the following:

1. Physical Tests:
   a. Abrasion Resistance: ASTM D 968.
   b. Absorption-Freeze-Thaw.
   c. Accelerated Weathering: ASTM G23 3,000 hour, no deterioration.
   d. Mildew Resistance: Mil Standard 810B: no growth.
   e. Moisture Resistance: ASTM D 2247: no deleterious effects 14 days.
   f. Salt Spray Resistance: ASTM B 117: 5 Percent concentration for 300 hours, no deleterious effects.
   g. Water Vapor Transmission: ASTM E 96: Water Methods Procedure.

2. Fire Tests: ASTM E84.

H. Pre-Installation Conference: Conduct conference at Project site in accordance with the requirements of Section 01 31 10 Project Meetings and the following:

1. Notify participants including University's Representative, Contractor, and University's Waterproofing Consultant at least 7 calendar days before conducting meeting.

2. Review material selections and procedures to be followed in performing the Work.

3. Review in detail job conditions, schedule, construction sequence, and quality of completed installation.

4. Review installation of lathing, lath accessories, with special attention to detailing of control joints and expansion joints.

5. Record discussions of conference and any conflict, incompatibility, or inadequacy. Furnish a copy of record to each participant.

I. Inspections: Coordinate required inspections before covering Work.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Refer to Section 01 60 00 Product Requirements,

B. Deliver products in original unopened packaging with legible identification.

C. Store products in a cool, dry place under cover, out of direct sunlight, protected from the elements and from damage. Store at a temperature between 40-deg. F. and 110-deg. F.

1.6 PROJECT CONDITIONS

A. Exterior Plasterwork:

1. Apply and continuously moist cure scratch and brown plaster coats and prevent plaster from drying out during minimum 48 hour curing period after installation.

2. Apply plaster only when ambient temperature is between 40 and 80 deg F.

3. Schedule work to avoid application in direct sunlight.

4. Protect plaster coats from freezing for not less than 48 hours after set of plaster coat has occurred.

B. Protection

1. Protect surrounding areas and surfaces from damage during application of the synthetic finish coat system.

2. Protect finished work from water penetration behind the system when stopping for the day or when completing an area.

3. Protect adjacent materials during application and protect applied material from weather and other damage while material cures.

C. Factory-Prepared Finishes: Comply with manufacturer's written recommendations for environmental conditions for applying finishes.

1.7 COORDINATION

A. Mock-ups: Be responsible for timely arrangement for and provision of products, assemblies, and related materials for composite mock-ups specified in Section 01 43 39 Mock-ups. Coordinate Work of other applicable Sections with Work of this Section.

1.8 WARRANTY

A. Warrant synthetic finish coat materials to be free from defects in materials and workmanship for a period of 3-years from the date of Substantial Completion. This warranty shall be in addition to and not a limitation of other rights the University may have against the Contractor under the Contract Documents.

PART 2 - PRODUCTS

2.1 PLASTER MATERIALS

A. Portland cement: ASTM C 150, Type I.

B. Lime: ASTM C 206, Type S; or ASTM C 207, Type S.

C. Sand aggregate: ASTM C 897.

D. Fiber for scratch and brown coats: Alkaline-resistant glass or polypropylene fibers, 1/2 inch long, free of contaminants, manufactured for use in portland cement plaster.

E. Acrylic additive:

1. “Thoro Acryl-60,” BASF, water-based acrylic resin admixture, or equal.

F. Adhesive leveling coat: Used to embed reinforcing mesh on the face of the brown coat. Compatible with substrate and as follows:

1. LaHabra Stucco Leveling Coat, a modified portland cement adhesive and basecoat. ParexLaHabra, Inc. or equal.

G. Continuous reinforcing fabric: Balanced, alkali-resistant, open-weave, glass-fiber fabric approved by plaster system manufacturer and complying with ASTM D578:

1. Standard reinforcing mesh, 4.5 oz./sq. yd. ParexLaHabra, Inc. or equal.

H. Acrylic Finish Coat General: Use products from same manufacturer. Premixed, 100-percent acrylic based coating complying with the following performance requirements:

1. 2000 Hour Weatherometer, ASTM G23: No marked evidence of surface cracking, blistering, flaking, chalking, crazing or any other deleterious effects observed.

2. Moisture Resistance, ASTM D2247: No blistering or surface cracking.

3. Freeze-Thaw, Section VI D of acceptance criteria for EIFS: No change in color, no cracks, no crazing, no delamination.

4. Abrasion Test, ASTM D968 method A (falling sand): Passed. Initial wear started at 3,200 liters.

5. Fungus, MIL-STD810B (method 508): Coating did not allow any fungus growth.

6. Water Vapor Transmission, ASTM E96: Passed.

I. 100 Percent Acrylic- trowelable finish coating: Factory-mixed acrylic-emulsion coating systems, formulated with colorfast mineral pigments and fine aggregates (0.5mm); for use over portland cement plaster base coats. Include manufacturer's recommended primers and sealing topcoats for acrylic-based finishes.

1. ParexLaHabra, Inc. 533 Sand Smooth, or equal.

2. Color: As selected from manufacturer’s full line of colors by University’s Representative.

2.2 MISCELLANEOUS MATERIALS

A. Water for mixing: Potable and free of substances capable of affecting plaster set or of damaging plaster, lath, or accessories.

B. Bonding agent: ASTM C 932.

2.3 PLASTER MIXES

A. General: Comply with ASTM C 926 for applications indicated.

1. Fiber content: Add fiber to scratch and brown coat mixes after ingredients have mixed at least two minutes. Comply with fiber manufacturer's written instructions for fiber quantities in mixes, but do not exceed 1 lb of fiber/cu. yd. of cementitious materials.

B. Base-coat mixes for use over lathing: Portland cement mixes for scratch and brown coats for plasterwork as follows:

1. Scratch coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 2-1/2 to 4 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

2. Brown coat: For cementitious material, mix 1 part portland cement and 0 to 3/4 parts lime. Use 3 to 5 parts aggregate per part of cementitious material (sum of separate volumes of each component material).

3. Acrylic additive for brown coat: Comply with manufacturer’s written recommendations.

C. Factory-prepared finish-coat mixes: For acrylic-based finish coatings, comply with manufacturer's written instructions.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine areas and substrates, with Installer present for compliance with requirements and other conditions affecting performance.

1. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Protect adjacent work from soiling, spattering, moisture deterioration, and other harmful effects caused by plastering.

B. Prepare solid substrates for plaster that are smooth or that do not have the suction capability required to bond with plaster according to ASTM C926.

3.3 INSTALLATION - GENERAL

A. Fire-Resistance-Rated Assemblies: Install components according to requirements for design designations from listing organization and publication indicated on Drawings.

3.4 MIXING

A. General: Use mechanical mixers for mixing plaster; do not hand mix. Do not use frozen, caked, or lumped material. Clean mechanical mixers, mixing boxes, and tools after mixing each batch; keep free of plaster from previous mixes. Thoroughly mix plaster with proper amount of water until uniform in color and consistency. Retempering not permitted; discard plaster which has begun to stiffen.

3.5 PLASTER APPLICATION

A. General: Comply with ASTM C926.

1. Allow no deviations exceeding 1/4 inch in 10 feet or 1/8 inch in 4 feet, from a true plane in finished plaster surfaces, as measured by a full-length straightedge placed on the surface.

2. Finish plaster flush with metal frames and other built-in metal items or accessories that act as a plaster ground, unless otherwise indicated.

B. Bonding agent: Apply on concrete plaster bases.

C. Curing times and intervals between plaster coats:

1. General: Apply and continuously moist cure plaster scratch and brown coats, regardless of ambient temperature, wind or humidity conditions. Moist cure by using a fine water mist spray such as from a Hudson sprayer, do not apply bulk water such as from a water hose.

2. Scratch Coat: Moist cure scratch coat for 2 days minimum before applying brown coat.

3. Brown Coat: Moist cure brown coat for 2 days minimum after installation.

4. Alternate Methods of Application: When using alternate methods of application, moist cure for final base coat for 7 days minimum.

5. Finish coating system: Verify brown coat surface condition acceptability, including field testing for alkalinity of surface conditions and comply with manufacturer’s written requirements.

D. Brown coat: In preparation for factory-prepared finish coating, float and use sufficient pressure to densify the brown coat surface uniformly to provide a surface receptive to bonding of the finish coat.

E. Fully embed continuous reinforcing fabric in lamina base coat in accordance with manufacturer’s written instructions and provide a smooth substrate for the finish coat.

F. Plaster finish coating system: Trowel finish to accepted texture following manufacturer's written instructions.

3.6 CUTTING AND PATCHING

A. Cut, patch, replace, and repair plaster as necessary to accommodate other Work and to restore cracks, dents, and imperfections. Repair or replace work to eliminate blisters, buckles, crazing and check cracking, dry outs, effloresence, sweat outs, and similar defects and where bond to substrate has failed.

3.7 CLEANING AND PROTECTION

A. Remove temporary protection and enclosure of other work. Promptly remove plaster from doorframes, windows, and other surfaces not indicated to be plastered. Repair floors, walls, and other surfaces stained, marred, or otherwise damaged during plastering.

END OF SECTION 09 24 00