

The Guide Specification contained within is intended to be used only as a "Guide." The user accepts all responsibility for project specifications. The Florida Lath & Plaster Bureau bears no responsibility for errors or omissions of any portions of the project specifications.

SECTION 09 24 23 PORTLAND CEMENT STUCCO

PART 1 - GENERAL

- 1.1 **RELATED DOCUMENTS:** Drawings and general provisions of the Contract, including General and Supplementary Conditions and other Division 1 – Specification Sections, apply to Work of this Section. The Contractor and Installer of the Work shall examine the specifications and shall thoroughly familiarize themselves with all provisions regarding the Work of this Section.
- 1.2 **SUMMARY**
- A. Section includes:
1. Portland Cement-Based Plaster – Drainage Wall Systems
 - a. Traditional 3-coat Lathed Systems
 - b. Defined Drainage Space and Rainscreen Systems
 2. Portland Cement-Based Plaster – Direct-Applied and Sealed Face-barrier Systems
- B. Related Sections:
1. Section 03 30 00 – Cast-in-Place Concrete
 2. Section 04 22 00 – Concrete Unit Masonry
 3. Section 06 11 00 – Wood Framing
 4. Section 06 16 00 – Sheathing
 5. Section 07 10 00 – Dampproofing and Waterproofing
 6. Section 0760 00 – Flashing and Sheet Metal
 7. Section 09 22 16 – Metal Framing
 8. Section 09 22 36 – Metal Lath
 9. Section 09.22.XX Non-metallic Lath
- 1.3 **REFERENCES**
- A. Building Code: FBC – 7th Edition (2020)
- B. ASTM B69- _20_ - Standard Specification for Rolled Zinc
- C. ASTM C91/C91M- _18_ - Standard Specification for Masonry Cement
- D. ASTM C150/C150M- _20/_ - Standard Specification for Portland Cement
- E. ASTM C207- _18_ Standard Specification for Hydrated Lime for Masonry Purposes.
- F. ASTM C847- _18_ - Standard Specification for Metal Lath
- G. ASTM C897- _15 (2020)_ - Standard Specification for Aggregates for Job Mixed Portland Cement-Based Plaster
- H. ASTM C926- _20b_ - Standard Specification for Application of Portland Cement-Based Plaster

- I. ASTM C932-06 (2019) - Standard Specification for Surface-Applied Bonding Agents for Exterior Plastering
- J. ASTM C933-18 – Standard Specification for Welded Wire Lath
- K. ASTM C979/C979M-16 - Pigments for Integrally Colored Concrete
- L. ASTM C1063-20a - Standard Specification for Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
- M. ASTM C1116/C1116M-10a (2020) - Standard Specification for Fiber-Reinforced Concrete and Shotcrete
- N. ASTM C1328/C1328M-19 - Standard Specification for Plastic (Stucco) Cement
- O. ASTM C1861-20 - Standard Specification for Lathing and Furring Accessories, and Fasteners, for Interior and Exterior Portland-Cement-Based Plaster
- P. ASTM C1878-18 - Standard Specification for Installation of Non Metallic Plaster Bases (Lath) Used with Portland Cement Based Plaster in Vertical Wall Applications
- Q. ASTM C1788-18 - Standard Specification for Non Metallic Plaster Bases (Lath) Used with Portland
- R. ASTM C1787-20 - Standard Specification for Installation of Non Metallic Plaster Bases (Lath) Used with Portland Cement Based Plaster in Vertical Wall Applications.
- S. ASTM D4216-17 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Related PVC and Chlorinated Poly (Vinyl Chloride) (CPVC) Building Products Compounds
- T. ACI 524R-16 Guide to Portland Cement Plastering
- U. ACI 117-10 - Specification for Tolerances for Concrete Construction and Materials.
- V. Florida Lath & Plastering Bureau Technical Bulletins – TB-ST-01 through 08.
- W. ICC Evaluation Service, Inc. AC38 Acceptance Criteria for Weather-Resistive Barriers.
- X. ICC Evaluation Service, Inc. AC356 Moisture Drainage Systems Used with Exterior Cement Plaster or Adhered Masonry Veneer Walls

1.4 SUBMITTALS

- A. Certification of compliance of materials with Contract Documents.
- B. Manufacturer’s written specifications, proportion mixes, and installation instructions for factory-prepared materials.
- C. Manufacturer’s Safety Data Sheet.
- D. Evidence of applicator’s experience including project identification with names of Owner and Architect/Engineer.

1.5 QUALITY ASSURANCE

- A. Applicator Qualifications: Application of cement plaster on at least three projects equal in scope to this Work. Provide evidence of applicator’s experience including

project identification with names of Owner and Architect/Engineer.

- B. Verify framing for support of Portland Cement-Based Plaster meets the FBC 7th Edition 2020 deflection criteria of L/360.
- C. Verify Wood sheathing is gapped a minimum of 1/8 inch around all edges and 1/8 inch from all other structural elements such as masonry or concrete.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver manufactured materials in original unopened packages or containers, identified with manufacturer's label intact and legible. Deliver materials in sufficient quantity to assure continuity of work. Select and utilize handling equipment so as to avoid damage to materials handled and damage to other construction.
- B. Keep all materials dry, stored above ground, under cover and away from damp surfaces.
- C. Remove wet or deteriorated materials from the Site.

1.7 PROJECT 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. Cold Weather Requirements: Do not apply cement plaster when ambient temperature is expected to be less than 40°F (4°C) and protect from freezing four at least 24 hours.
- C. Hot Weather Conditions
 - 1. Use damp loose sand.
 - 2. Use cool, potable water for mix water.
 - 3. Pre-dampen masonry walls prior to the application of the scratch coat.
 - 4. Prevent the plaster from drying out by covering with a plastic sheet, or moist cure by fogging or spraying at least twice daily for the first 2 – 3 days. Dry or windy weather conditions may require moist curing at more frequent intervals or for longer periods of time.
 - 5. Do not allow fresh plaster to be subject to hot, dry winds.
- D. Protection:
 - 1. Protect adjacent finished surfaces and projections, installed prior to plastering, by covering with plastic sheets, non-staining Kraft paper, removable type masking tape, non-staining petroleum jelly, or other appropriate means.
 - 2. Maintain protection in place until completion of plastering.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Approved Manufacturers:
 - 1. Cement: Ash Grove Stucco Cement
 - a. Ash Grove Cement

4750 C CR 470
Sumterville, FL 33585
(352) 559-9974
www.ashgrove.com.

- b. Cemex Stucco Cement
CEMEX
16301 Ponce De Leon Blvd.
Brooksville, FL 34614
(352) 799-2025
www.cemex.com.
- c. Titan America Stucco Cement
Titan Florida LLC
11000 NW 121st Way, Medley, FL 33178
(800) 226-2057
www.titanamerica.com

- 2. Aggregate: _____
- 3. Surface-applied Bonding Agents: _____
- 4. Water Resistant Barriers: Sheet Goods
 - a. Drainage Plane: _____
 - b. Bond Break: _____
- 5. Water Resistant Barriers: Fluid-Applied: _____
- 6. Rainscreen _____
- 7. Admixtures:
 - a. Integral Bonding Agent: _____
 - b. Fiber: _____.
- 8. Lath and Accessories
 - a. AMICO (Alabama Metal Industries)
3245 Fayette Avenue
Birmingham, AL 35208
(800) 366-2642
www.alabama-online.com
 - b. Clark Dietrich Building Systems
9100 Centre Pointe Dr.; Suite 210
West Chester, OH 45069
(770) 844-5910
www.clarkdietrich.com
 - c. Niles Building Products
8441 Western Way
Jacksonville, FL 32256
(904) 374-7183
www.nilesbldg.com.
- 9. Non-metallic Lath

10. PVC Accessories
 - a. Plastic Components
9051 NW 97th Terrace
Miami, FL 33178
(800) 327-7077
www.plasticcomponents.com
 - b. Vinyl Corp.
8000 NW 79th Place
Miami, FL 33166
(800) 648-4695
www.clarkdietrich.com

11. Sealants
 - a. General purpose sealant/caulk: _____

 - b. Elastic Crack Repair Sealant: _____

2.2 MATERIALS

- A. Cement:
 1. Masonry cement: ASTM C 91 Type S.
 2. Plastic cement: ASTM C 1328 Type S.
 3. Colored masonry cement: Conform to ASTM C 91 Type S; Color.

- B. Aggregate:
 1. Base Coats: ASTM C897, natural or manufactured sand.
 2. Finish Coats: ASTM C897, natural or manufactured sand or other such aggregate as may be required to achieve specific finish textures.

- C. Water: Potable, cool and free from impurities.

- D. Weather Resistive Barriers
 1. Drainage Plane WRB: _____
 2. Bond Break WRB: _____
 3. Rainscreen: _____

- E. Lath: Metal lath labeled as "Nominal" or "Utility" shall not be acceptable..
 1. Expanded Metal Lath: ASTM C847, G 60 galvanized, self-furring, V-Groove, expanded metal lath of xxlbs./sq.yd. as specified in Article 2.1.A.7 above.
 2. Welded-Wire Lath: ASTM C933, galvanized, self-furring, welded-Wire lath of xxlbs./sq.yd. as specified in Article 2.1.A.7 above.
 3. Non-Metallic Lath: PVC or Fiberglass in compliance with ASTM C1788

- F. Accessories
 1. PVC accessories complying with ASTM D 4216 as specified in Article 2.1.A.9 above.
 2. Weep or Drainage Screed
 - a. Foundation weep screed: _____
 - b. Other Weep or Drainage Screed or mechanism: _____

3. Control Joint: _____
4. Expansion Joint: _____
5. Plasterstop: _____
6. Cornerbead: _____
7. Other: _____

G. Admixtures:

1. Fibers: ½ in. (12.7 mm) fibers meeting the requirements of ASTM C1116.
2. Integral Bonding Agent:
3. Other: _____ as manufactured by _____ to provide _____.

H. Surface-Applied Bonding Agent: ASTM C932, non-oxidizing, non-crystallizing, non-reemulsifiable, non-rewettable and non-retackifying material.

1. _____

I. Sealants

1. General Purpose: _____
2. Elastic Crack Repair: _____

J. Coloring Compounds:

1. ASTM C979 mineral oxide pigment _____ as manufactured by _____.
2. Use coloring compound as prepared by factory certifying compliance to product standard and demonstrating no effect on setting and hardening of plaster mixture when used within recommended dosage range. Do not use carbon black, lampblack or organic pigments.

K. Factory-Prepared Finish Coat: Factory-prepared mixture produced by _____, under the product designation of _____.

1. Color: _____.
2. Texture: _____.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verify that all substrates to receive plaster conform to the Requirements of ASTM C926.

1. General – All Substrates
 - a. All surfaces to receive stucco are within a plane tolerance of ¼ inch in 10 feet.
 - b. All penetrations through the building envelope (windows, doors, conduits, vents and others) have been properly flashed and sealed.
2. Direct-Applied Stucco
 - a. The substrate is sufficiently absorptive to ensure the direct bond of the stucco.
 - b. Concrete/masonry is clean, free of beeholes or incomplete mortar joints.
 - c. All bee holes and missing mortar joints shall be tuckpointed in accordance with ASTM C270 prior to plastering.
 - d. All cracks in masonry or concrete surfaces to receive plaster shall be repaired and sealed prior to plastering with material specified in Article 2.2.1 above.
 - e. All penetrations are flashed and sealed at the substrate level

3. Drainage Systems
 - a. A 1/8 inch gap is left around each individual wood sheathing panel.
 - b. Seams of all Drainage Plane WRBs are taped or sealed.
 - c. All penetrations are flashed and sealed at the drainage plane level.
 4. Sealed Face-Barrier Systems:
 - a. Concrete/masonry is clean, free of beeholes or incomplete mortar joints.
 - b. All bee holes and missing mortar joints shall be tuckpointed in accordance with ASTM C270 prior to plastering.
 - c. All cracks in masonry or concrete surfaces to receive plaster shall be repaired and sealed prior to plastering with material specified in Article 2.2.1 above.
 - d. A 1/8 inch gap is left around each individual wood sheathing panel.
 - e. Seams of all Drainage Plane WRBs are taped or sealed.
 - f. All penetrations are flashed and sealed at the drainage plane level.
- B. Verify that areas and conditions under which work is to be performed permit proper and timely completion in a workmanlike manner.
 - C. Notify Superintendent/Builder in writing if conditions are not acceptable.

3.2 MIXING

- A. General
 1. Size mixer to produce batches that will be applied within maximum of 1½ hours after mixing.
 2. Accurately proportion materials for initial plaster mixture using measuring devices or known volume. Shovels of sand can be used after mixer is calibrated with known volumes of materials, including water.
 3. Use damp, loose sand.
 4. Add pigments or other specified admixtures to batch in accordance with manufacturer's recommendations.
 5. Retempering of base-coat cement plaster is permitted one time only after initial mixing. Plaster not used within 1½ hours of initial mixing shall be discarded.
 6. Retempering of finish-coat cement plaster is not permitted.
- B. Mechanical Mixing
 1. Mix each batch separately; double batching with single batch discharge shall not be permitted.
 2. Maintain mixer in clean condition before, during, and after plaster preparation. Remove partially set and hardened plaster from mixer drum before next batch. If mixer has been previously used in preparing gypsum plaster, thoroughly clean prior to use to prepare cement plaster.
 3. Maintain mixer in continuous operation while charging mixer. Add water to bring plaster to desired consistency. Continue mixing for 3 to 5 minutes after all ingredients have been added to the mixer.
 4. Mix factory-prepared plaster in accordance with manufacturer's recommendations.
- C. Mix Proportions
 1. Dash-bond coat: 1 part of Portland cement and maximum 2 parts of sand,

- proportioned by volume.
2. Base coat(s):
 - a. ASTM C 926 Plaster Mix Type MS or Type P.
 - b. Add ____ fiber to the ____ coat per manufactures recommendation
 - c. Add _____ admixture to base-coat cement plaster at the addition rate of _____.
 3. Finish Coat
 - a. Site prepared: ASTM C926 Plaster Mix Type FMS or FP.
 - b. Factory prepared: Proportion factory-prepared mixture produced by _____, under the product designation of _____ with water as recommended by manufacturer.

3.3 PREPARATION

- A. Direct-Applied and Sealed Face-Barrier Systems
 1. Clean the surface to receive plaster of all foreign materials such as cement dust, dirt or form-release agents prior to application of the plaster.
 2. Pre-wetting should be specified on all concrete masonry construction. The typical concrete masonry unit produced in Florida should be considered as a high-suction solid base. Pre-wetting the concrete or masonry wall prior to the application of the scratch coat is essential to achieving suitable bond between the block and the scratch coat. Note to the A/E: This is extremely important as it is the primary cause of failure of bonding of the plaster coat.
 3. Wet high-suction solid bases with fine water spray to produce a uniformly damp surface.
 4. For tilt-wall or cast-in-place applications: Clean the wall surface with a mild detergent and rinse thoroughly prior to application of the scratch coat to remove the form-release agent.
 5. At Contractor's option, where additional surface preparation is needed to provide an acceptable mechanical key, apply either a dash-bond coat or a bonding agent as described below.
 - a. 1. Apply dash-bond coat of cement plaster to solid base and moist cure for a period of not less than 24 hours.
OR
 - b. 2. Apply bonding agent meeting ASTM C932 as specified in Article 2.2.H above, directly to concrete surface as recommended by bonding agent manufacturer's instructions.
- B. Drainage Wall Systems without Rainscreens
 1. Install Water-Resistant-Barriers (WRBs) in accordance with manufacturer's instructions. Use single-source products where possible.
 - a. Install the Drainage Plane WRB, as specified in Article 2.2.D.1 above, in accordance with manufacturer's instructions. Tape and seal all seams and joints with compatible tape.
 - b. Install the Bond-Break WRB, as specified in Article 2.2.D.2 above, in accordance with manufacturer's instructions. Tape and seal all seams and joints with compatible tape.
- C. Drainage Wall Systems with Rainscreens
 1. Install Water-Resistant-Barriers (WRBs) in accordance with manufacturer's instructions. Use single-source products where possible.

- a. Install the Drainage Plane WRB, as specified in Article 2.2.D.1 above, in accordance with manufacturer's instructions. Tape and seal all seams and joints with compatible tape.
 - b. Install the Rainscreen material as specified in Article 2.2.D.2 above, in accordance with manufacturer's instructions.
- D. Install WRB(s) and/or Lath and accessories in accordance with FBC 7th Edition (2020), ASTM C1063, ASTM C1787, ASTM C926 and manufacturer's instructions.
 - E. Install control and expansion joints in accordance with drawings and specifications.
 - 1. Control Joints shall be tied to the lath. Fasteners that penetrate the Weather-resistant Barriers shall be prohibited.
 - 2. Lath shall be discontinuous at the Control or Expansion Joints.

3.4 APPLICATION

- A. Do not install cement plaster until all accessories are in place (see Section 09 22 36).
- B. Apply individual coats of cement plaster using 3-coat application over lath and 2-coat application over concrete/masonry to achieve the required thickness.
- C. Apply cement plaster with complete embedment into bases and all accessories. Fill all corner beads with each coat.
 - 1. A Hawk and Trowel shall be used to apply the scratch and brown coats.
 - 2. The use of "slickers" to apply the scratch or brown coats shall be prohibited.
 - a. Exception: Where scratch or brown coats are applied by pump or spray equipment, slickers may be used to bring the coat to plane.
- D. Apply cement plaster with interruptions occurring only at junctures of plaster planes, at openings, or at control joints.
- E. Install plaster over lath in accordance with the requirements of ASTM C926 for the application of cement plaster on lath.
- F. Install plaster in accordance with the requirements of ASTM C926 for the application of two-coat or three-coat plaster on solid bases.
- G. For exterior plaster, delay application of brown coat until scratch coat has attained sufficient rigidity to resist cracking or other physical damage when the next coat is applied. Use a long rod, slicker or red rubber float to densify each coat.
- H. Curing: Moist cure the set and hardened base-coat plaster at the beginning and end of the workday by spraying a fine mist of water over the entire surface. Repeat application of a fine mist of water morning and evening until plaster has been in place 2 to 5 days (follow ASTM C926, Section X1.5.2). Alternatively, coverage of the base-coat plaster with plastic membrane until application of subsequent coat or finish-coat plaster is permitted.
 - 1. Keep a daily moist curing log detailing the location, time and signature of the individual performing the moist curing.
- I. Finish Coats:
 - 1. Texture finish coat to the specified finish.
- J. Tolerance: Complete plaster work such that the deviation from true plane (exclusive of texture) is no greater than 1/4 in. (6 mm) as measured from line of a

10-ft (3.5-m) straightedge placed at any location on surface.

3.5 INSPECTION, ADJUSTING AND CLEANING

A. Inspection: The inspection agency will:

1. Confirm and document that bases and accessories to receive plaster meet requirements of ASTM C926, ASTM C1063, ASTM C1787 and ASTM C1861 and applicable building codes, prior to application of plaster.
2. Confirm and document that materials used in base-coat and finish-coat plaster meet the requirements of "Materials" Article 2.2 above.
3. Confirm and document, _____ that plaster proportioning and mixing procedures are in accordance with "Mixes" Article 2.4 above.
4. Confirm and document, _____ that preparation of bases and application of plaster are in accordance with "Preparation" (3.2) and "Application" (3.3) Articles above.

B. Adjusting:

1. Point-up plaster around trim and other locations where plaster abuts dissimilar materials.
2. Remove defective and damaged plaster by cutting it out.
3. Remove by cutting out stained and discolored finish-coat plaster scheduled to remain natural and unpainted.
4. Replace removed plaster using plaster with same composition and brought to desired texture and color consistent with surrounding area.

C. Cleaning:

1. Remove protective materials masking adjacent surfaces.
2. Remove stains that affect uniformity of plaster finish.
3. Use Cleaning methods approved in advance by the Architect/Engineer.

D. Color Uniformity: To correct non-uniform color throughout the field of the plaster, fog coat spray entire finish-coat surface. Fog coats shall consist of finish-coat materials, except aggregate, spray applied to entire finish-coat surface on discolored elevations identified by the Architect/Engineer.

END OF SECTION