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Renaissance Stucco by TecnoCemUSA

Section 09220

Autoclaved Aerated Concrete

This guide specification section has been prepared by TecnoCemUSA. This section will assist design professionals in the preparation of a specification section of Renaissance Stucco.

This specification is intended for use by the design/construction professional and any user of TecnoCemUSA products to assist in developing project specifications and to provide guidance on the application of Renaissance Stucco to sound supporting construction. Renaissance Stucco consists of a white Portland cement-based, modified color stucco. Renaissance Stucco functions as a decorative and protective exterior and interior wall covering. As with any exterior wall covering the proper integration of other components of construction, in particular, the use of flashing to direct water to the exterior, is essential. Efflorescence is a normal occurrence in Portland cement based products and can affect final appearance of finish products installed over stucco. Some degree of cracking is normal in Portland cement stucco and should be expected. Cracking is generally not caused by a material defect in the stucco and can be minimized by following sound construction practice such as the proper installation of lath, the proper incorporation of stress relief joints in the construction, moist curing of the stucco after it has been applied, and proper sequencing of construction to avoid stresses on the stucco. This specification provides a guideline for the use and specification of Renaissance Stucco. Designers and applicators should have full knowledge of the use of the product and follow the guidelines provided by the manufacturer and the Portland Cement Association.

Cautions and Limitations

TecnoCem Warranty does not cover defects or damage caused by water penetration due to leaks through windows or any other items installed which is not part of Renaissance Stucco. Further, Renaissance Stucco contains Portland Cement; therefore, cracking and efflorescence may occur. Such cracking or efflorescence is not a defect in the product and; therefore, is not covered by this Warranty. Renaissance Stucco is guaranteed as water resistant, not waterproof. The entire assembly must be constructed to existing specifications to ensure a watertight structure and properly meet TecnoCemUSA Warranty Guidelines.

PART 1: GENERAL

1.01 SUMMARY

Section Includes: Renaissance Stucco: Exterior wall [and Soffit] cladding of Stucco System.

1.02 REFERENCES

- A. ASTM C79 - Gypsum Sheathing Board
- B. ASTM C150 - Portland Cement
- C. ASTM C 151- Autoclave Expansion of Portland Cement
- D. ASTM C578 - Pre-formed Cellular Polystyrene Thermal Insulation
- E. ASTM C847 - Standard Specification for Metal Lath
- F. ASTM C932- Surface-Applied Bonding Agent Non-Remulsifier ONLY
- G. ASTM C926- Application of Portland Cement-Based Plaster
- H. ASTM C979- Pigment for Integrally Colored Concrete
- J. ASTM C1032-Woven Wire Plaster Base
- K. ASTM C1063-Standard Specification for Installation of Lathing and Furring for Portland Cement Plaster
- L. ASTM C1177-Glass Mat Gypsum Sheathing
- M. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials
- N. ASTM E119- Method for Fire Tests of Building Construction and Materials
- O. ASTM E330 - Test Method for Structural Performance of Exterior Windows, Curtain Walls, and Doors by Uniform Static Air Pressure Difference
- P. ASTM G23 - Practice for Operating Light-Exposure Apparatus (Carbon-Arc Type) with and with out Water for Exposure of Nonmetallic Materials
- R. Renaissance Stucco Installation Guide
- S. Renaissance Stucco Application Guide

1.03 DESIGN REQUIREMENTS

- A. Substrates:
 - 1. Shall comply with local code requirements and practices for use under cement plaster including:
 - 2. Plywood and OSB sheathing shall be gapped 1/8 in (3 mm) on all sides as recommended by the APA and the Engineered Wood Association
 - 3. Deflection of substrate systems shall not exceed L/360
 - 4. Autoclaved Aerated Concrete Installed to Manufactures Recomendations
- B. Joints:
 - 1. Control Joints shall be located as recommended in ANSI A 42.3 Specification for Lathing and Furring for Portland Cement Plaster and shall be specified by the architect
 - 2. As a minimum, control joints shall be located as follows:
 - a. Monolithic wall areas shall not exceed 144 square feet
 - b. Where the system is to be installed at dissimilar construction or substrates where true expansion joints occur in the structure.
 - c. At changes in building height and all floor lines.
 - d. Through wall penetrations.
 - 3. Minimum 3/8 inch wide joints at all system terminations at through wall penetrations.
 - 4. On solid substrates (masonry, pre-cast concrete, CMU, AAC) joint spacing shall not exceed 250 square feet (23 square meters).

- C. Flashing:
 - 1. Corrosion resistant flashing shall be installed before application of the TecnoCem Renaissance One Coat. Flashing shall be applied above window and door heads, beneath window and door sills, at roof/wall intersections, decks, at terminations into the foundation and roof and where detailed by the designers specifications and details.
 - 2. Installation of the flashing is not the responsibility of the Renaissance Stucco contractor, unless specified in the contract documents.
- D. Non-vertical Surfaces (Parapets, sills and similar surfaces):
 - 1. Non-vertical surfaces must be sloped so that no standing water is allowed and so that any moisture may be allowed to drain to the exterior.
 - 2. Non-vertical surfaces must be designed such that the sheathing and framing are protected from water penetration.
 - a. Apply a self-healing, self sealing, peel and stick membrane and design so that any moisture is allowed to drain to the exterior.
 - b. Recommended to use parapet cap flashing at parapets
 - 3. For systems over tongue and groove insulation board, non-vertical surfaces require a peel and stick water proofing membrane.
 - 4. The length of inclined surfaces shall not exceed 12 in (305 mm).
 - 5. The slope of inclined surfaces shall not be less than 3:12 (14.5 degree incline)
- E. Vapor Barriers:

Use and location of vapor barriers within a wall assembly is the responsibility of the project designer and shall comply with local building code requirements. Vapor barriers may be inappropriate, especially in southern climates and can result in condensation within the wall assembly when incorrectly used.

1.04 PERFORMANCE REQUIREMENTS

- A. Compressive Strength (ASTM C 109): 1700 PSI
- B. Water Penetration (ASTM D 2247): Pass
- C. Freeze/Thaw cycling (ICBO Procedure): No cracking, checking or delamination
- D. Transverse Load Strength (ASTM E 72): See Current Code Evaluation Reports or OPL Listing for load requirements
- E. Surface Burning (ASTM E 84): Flame spread of less than 25, Smoke Developed of less than 450

1.05 SUBMITTALS

- A. Product Data: Provide data on system materials, product characteristics, performance criteria and limitations.
- B. Samples: Submit two samples, 8-inch x 12-inch (204-mm x 300-mm) in size illustrating coating color and texture range for selection.
- C. Manufacturers' Application Guide for Renaissance Stucco: Indicate special procedures, perimeter conditions requiring special attention, jointing requirements, and other details.

1.06 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Coating Manufacturer: TecnoCemUSA
 - 2. Materials shall be third-party certified by the TecnoCemUSA Manufacturers Verification Program to ensure that the manufactured materials are the same composition as tested materials. (if required).

3. Applicator: Company specializing in performing the Work of this Section approved by Stucco system manufacturer.
 4. Insulation Board Manufacturer: Shall subscribe to the TecnoCemUSA Third party Certification and Quality Assurance Program.
- B. Regulatory Requirements:
1. Insulation board shall be separated from the interior of the building by a minimum 15 minute thermal barrier.
 2. Insulation board thickness and use shall be in accordance with the applicable building codes.

1.07 DELIVERY STORAGE AND HANDLING

- A. Delivery: TecnoCemUSA's materials shall be delivered to the job site in original, unopened containers with labels intact. Unsatisfactory materials shall not be used.
- B. All trim accessories and lath and/or other specified products shall be shipped to job site in original containers. Any damaged or bent materials shall be replaced.
- C. Storage: Store TecnoCemUSA materials in a cool, dry location, out of sunlight and protected from weather and other damage, at a minimum temperature of 40 °F (4 °C).
- D. Protect adhesives and finish materials from freezing.

1.08 MAINTENANCE

Follow Renaissance Stucco Application Guide for repair and maintenance instructions.

1.09 WARRANTY

- A. Limited Materials Warranty: Furnish written Limited Warranty on materials from TecnoCemUSA for a period of ____ years, commencing on date of Substantial Completion.
- B. TecnoCem Warranty does not cover defects or damage caused by water penetration due to leaks through windows or any other items installed which is not part of the Renaissance Stucco. Further, Renaissance Stucco contains Portland Cement; therefore, cracking and efflorescence may occur. Such cracking or efflorescence is not a defect in the product and; therefore, is not covered by this Warranty. Renaissance Stucco is guaranteed as water resistant, not waterproof. The entire assembly must be constructed to existing specifications to ensure a weather tight structure and properly meet TecnoCemUSA Warranty Guidelines.

PART 2: PRODUCTS

2.01 MANUFACTURERS

Acceptable Manufacturer:
TecnoCemUSA Esperante Building 222 Lakeview Ave.
West Palm Beach, FL 33401
(561) 655-8962 www.tecnocemusa.com

2.02 MATERIALS

- A. Weather-Resistive Barrier (by others):
 1. Shall comply with all applicable local building code requirements.
 2. _____ 100% acrylic weather barrier coating.
 3. Two layers are required over wood based sheathings.
 4. Grade D (30 or 60 minute paper shall meet Federal Specification UU-B-790a).
 5. Other code approved weather-resistive barrier.

B. Metal Lath:

1. Minimum No. 20 gauge, 1 inch (25 mm) self-furred galvanized steel woven wire fabric, ASTM C 1032. Lath must be self-furred or furred except over foam plastic insulation board. Furring crimps must be provided at maximum 6" (152 mm) intervals each way. The crimps must hold the body of the lath a minimum of 1/8" (3.2 mm) from the substrate after installation.
2. Minimum 1.75 lb./yd² (0.95 kg/m²) self-furred galvanized steel diamond mesh metal lath, ASTM C 847. Furring crimps must be provided at maximum 6" (152 mm) intervals each way. The crimps must hold the body of the lath a minimum of 1/8" (3.2 mm) from the substrate after installation.
3. Structa Lath.

C. _____: 100% acrylic polymer admixture for Renaissance Stucco. by others.

D. Stucco:

Renaissance Stucco by TecnoCemUSA: Factory prepared mixture of Type I - II White Portland cement complying with ASTM C 150, and proprietary additives. The mixture is packaged in 55-pound bags.

E. Primer, if painted

1. 100% pigmented, acrylic primer for finishes/coatings.

F Accessories (by others):

1. Tie Wire: 18 gauge galvanized and annealed low-carbon steel in compliance with ASTM A 641 with Class I coating. Depth of accessories (grounds) shall be sized for the plaster thickness.
2. Trim, weep screed, casing bead, corner lath: ASTM C 1063 and corrosion resistant.
3. Steel accessories shall meet ASTM C 841.
4. PVC accessories shall meet ASTM D 1784 and C 1063.
5. Sealant Backer Rod: Closed cell extruded polyethylene foam rod sized to joint configuration.
6. Bond Breaker Tape: Pressure-sensitive adhesive polyethylene tape, recommended by sealant manufacturer.
7. Peel and Stick Membrane: A 40 mil SBS modified rubberized asphalt membrane.

PART 3: EXECUTION

3.01 EXAMINATION

A. General:

1. Verify that surfaces and wall openings are ready to receive work.
2. Correct unsatisfactory conditions prior to installation.
3. Architect or General Contractor shall ensure that all needed flashings and other water proofing details have been installed correctly.
4. Follow TecnoCem USA Check List Prior to Installation located in the Renaissance Stucco Application Guide

B. Substrates:

1. Acceptable Substrates:

- a. Polystyrene insulation over open framing. Polystyrene: Expanded or extruded polystyrene insulation board has a minimum density of 1 up to 2.5 pounds per cubic foot (24 and 40 kg/m³, respectively), a flame-spread rating of 25 or less, and a smoke-density rating not exceeding 450 with 3/8" (9.5 mm) high tongues and compatible grooves for horizontal joints.
 - b. Polyisocyanurate insulation over open framing. Polyisocyanurate: Dow Tuff-R or equal insulating sheathing. Boards are 5/8" to 2" (16 to 38 mm) thick.
 - c. Dens-glass Gold Sheathing by Georgia Pacific (DIFS)
 - d. Exterior Grade Gypsum Sheathing with Regular or Type X core
 - e. Exterior Fiber Reinforced Cement Board
 - f. Unglazed Brick
 - g. Unit Masonry
 - h. ICF, Insulated Concrete Forms, see list of Manufactures
 - i. Concrete which has been cured for at least 28 days
 - j. Minimum 7/16" thick APA rated Exposure 1 Sheathing with 24/16 span rating installed according to APA guidelines.
 - k. Minimum 1/2" 4-ply, APA Exposure 1, Grade C-D or better plywood, with the C side or better, facing the exterior. The plywood shall be installed according to APA guidelines and shall be plane to within a 1/4" over a 4-ft. radius.
 - l. Stucco. Should be unpainted, sound and washed to remove dirt and loose material.
 - m. AAC, Autoclaved Aerated Concrete, see list of Manufactures
2. Verify that substrate and adjacent materials are dry and sound, free of foreign substances that will impair bond or successful installation. Ensure that the substrate is not frozen.
 3. Verify substrate surface is flat and free of surface irregularities: Maximum 6-mm (1/4") measured within any 1.22-m (4-foot) radius.

3.02 PREPARATION

- A. Report discrepancies materially different from Contract Documents to architect prior to commencement of installation.
- B. Protect adjacent work areas from moisture, deterioration, and soiling resulting from system installation. Provide temporary coverings and other measures to protect other work.
- C. The AAC block must be saturated with clean potable water before application of Renaissance Stucco retard suction

3.03 INSTALLATION

- A. General:
 1. Follow Application Guide and Renaissance Stucco Installation Guide.
 2. Install Substrates per manufacturers' instructions.
 3. Install Flashing according to Architect/Designer. The application of flashing/flashing paper is not the responsibility of the stucco contractor.
 4. Install Trim and accessories as per Architect/Designer ASTM C-1063.
 5. Install third party system components to product manufacturers' written instructions.
 6. Sealant: Apply at system perimeter and prepared joints to requirements of Section 07900 and manufacturers' written instructions.

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7. Construct full-scale mock-up of typical stucco/window wall assembly with specified tools and materials and test air and water infiltration and structural performance in accordance with ASTM E 283, E 331 and E 330, respectively. Mock-up shall comply with requirements of project specifications and shall have color and texture approval.
- B. Stucco:
Renaissance Stucco by TecnoCemUSA, Inc.: Factory prepared mixture of Type I - II White Portland cement complying with ASTM C 150 and proprietary additives. The mixture is packaged in 55-pound bags.
- C. Paint:
1. Primer (Renaissance Stucco 3-7 days cured) by others.
 2. Paint (Renaissance Stucco 7-12 days cured) by others.
- D. Sealant:
1. Apply sealant at system perimeter and prepared joints to requirements of Section 07900 and manufacturers' written instructions.
 2. Use bond breaker tape for joints too shallow to receive backer rod.

3.04 FIELD QUALITY CONTROL

- A. Repair or replace defective materials to eliminate blisters, buckles, excessive crazing, cracking, and other areas where bond to the substrate has failed.

3.05 CLEANING AND PROTECTION OF FINISHED WORK

- A. Remove temporary covers and barriers protecting adjacent construction after installation.
- B. Do not permit finish surface to become soiled or damaged.

3.06 PROJECT/SITE CONDITIONS *(Weather conditions affect application, drying time and curing requirements. Hot or dry conditions limit working time and accelerate drying and may require adjustments in application, scheduling and curing to achieve desired results; cool or damp conditions extend working time and retard drying and may require additional measures of protection against wind, dust, dirt, rain and freezing.)*

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- B. Maintain ambient and surface temperatures above 40°F (4°C) during application and drying period, minimum 48 hours after set of Renaissance stucco for exterior and 72 hours for interior application.
- C. Provide supplementary heat for installation in temperatures less than 40°F (4°C) such that temperatures are maintained as in 3.06 B. Prevent concentration of heat on uncured stucco and vent fumes and other products of combustion to the outside to prevent contact with stucco. Prevent uneven or excessive evaporation of moisture from stucco during hot, dry or windy weather. For installation under any of these conditions provide special measures to properly

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moist cure the stucco. Provide protection of surrounding areas and adjacent surfaces from application of materials.