

SECTION 07 24 00
DIRECT EXTERIOR FINISH SYSTEMS

PART 1 - GENERAL

1.1 DESCRIPTION

Exterior Finish Systems specified in this section consist of a Direct Exterior Finish System (DEFS) and simulated synthetic stucco finish applied over cement board sheathing.

1.2 RELATED WORK

A. Cement Board: Section 06 16 63, CEMENTITIOUS SHEATHING.

1.3 SUBMITTALS

A. Submit in accordance with Section 01 33 23, SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.

B. Samples:

Two 300 mm (one-foot) square samples of the DEFS finishes over cement board sheathing identical to the proposed installation in thickness, color, texture and workmanship.

C. Test Reports and Manufacturer's Literature

1. Manufacturer's literature and instructions for installation of the system. Include manufacturer's recommended details for corner treatment, sills, soffits, dentils, quoins, lintels, openings and other special applications.
2. Summary of test results by the Exterior Finish System manufacturer to substantiate compliance with the specified performance requirements. Furnish complete test reports as required.
3. Statement by Exterior Finish System manufacturer that all components of the system proposed for use on this project are approved by that manufacturer.
4. Statement by the Installer of the Exterior Finish System that they are experienced with the installation, having done at least three (3) projects using this system and can furnish names and locations of these projects if required.

1.4 DELIVERY AND STORAGE

- A. Deliver materials in unopened packages with manufacturer's labels intact, legible and grade seals unbroken.
- B. Store and handle in strict compliance with manufacturer's instructions. Protect from damage.
- C. Remove from premises any damaged or deteriorated material.

1.5 ENVIRONMENTAL CONDITIONS

Unless a higher temperature is required by the system manufacturer, the ambient air temperature shall be 7 degrees Celsius (45 degrees F) or greater and rising at the time of installation of the system and shall be predicted to remain at 7 degrees Celsius (45 degrees F) or greater for at least 24 hours after installation.

1.6 WARRANTY

Exterior Finish system shall be warranted against water leakage past the weather resistive barrier and other defects in materials and workmanship, and shall be subject to the terms of Article "Warranty of Construction", FAR clause 52.246-21, except that the warranty period shall be ten years.

1.7 APPLICABLE PUBLICATIONS

- A. Publications listed below form a part of this specification to the extent referenced. Publications are referenced in the text by the basic designation only.
- B. American Society for Testing and Materials (ASTM):
- B117-09.....Operating Salt Spray (Fog) Apparatus
 - C67-09.....Sampling and Testing Brick and Structural Clay
Tile
 - C177-10.....Steady-State Heat Flux measurements and Thermal
Transmission Properties by Means of the
Guarded-Hot-Plate Apparatus
 - C297-10.....Flatwise Tensile Strength of Sandwich
Constructions
 - C578-10.....Rigid, Cellular Polystyrene Thermal Insulation
 - C666-03(R2008).....Resistance of Concrete to Rapid Freezing and
Thawing
 - C920-11.....Elastomeric Joint Sealants
 - D968-10.....Abrasion Resistance of Organic Coatings by
Falling Abrasive
 - D2794-93(R2010).....Resistance of Organic Coatings to the Effects
of Rapid Deformation (Impact)
 - E84-10.....Surface Burning Characteristics of Building
Materials
 - E96-10.....Water Vapor Transmission of Materials
 - E108-10.....Fire Tests of Roof Coverings

E330-02(R2010).....Structural Performance of Exterior Windows,
Curtain Walls, and Doors by Uniform Static Air
Pressure Difference

E331-00.....Water Penetration of Exterior Windows, Curtain
Walls, and Doors by Uniform Static Air Pressure
Difference

G90-10.....Accelerated Outdoor Weathering of Nonmetallic
Materials Using Concentrated Natural Sunlight

C. Exterior Insulation Manufacturers Association (EIMA)

101.86-1992.....Resistance of Exterior Insulation and Finish
Systems to the Effects of Rapid Deformation
(Impact)

PART 2 PRODUCTS

2.1 SYNTHETIC STUCCO

A. Description: Reinforced cement board joints, synthetic stucco base coat
and simulated stucco finish coat applied directly to the cement board.

B. Joint Reinforcement:

1. Reinforcing tape: Minimum 100 mm (4 inch) wide, polymer coated, open
mesh glass fiber tape.
2. Tape embedding material: Ready-to-mix Portland cement mortar base
coat containing dry latex polymers.

C. Accessories:

Trim, control joints and corner beads as recommended by Exterior Finish
System manufacturer.

D. Stucco finish:

1. Base coat: Ready-to-mix, Portland cement mortar containing dry latex
polymers.
2. Finish coat: Pre-colored, ready-mixed, polymeric coating.

3. Performance requirements:

<u>Property</u>	<u>As Required Test Method</u>	<u>Requirement</u>
Surface Burning Characteristics	ASTM E 84	Class A
Abrasion Resistance	ASTM D 968	500 liters of light smoothing. No loss of film integrity.
Bond Strength (with cement board)	ASTM C 297	50 psi
Salt Spray Resistance	ASTM B 117	300 hours exposure. No deleterious effects
Freeze/Thaw Resistance (with cement board)	ASTM C 666 proc. B	100 Cycles. No deterioration, no delamination
Accelerated Weathering	ASTM G 90	2000 hours. No deterioration
Rapid Deformation	ASTM D2794	No cracking or impact failure

- E. Sealant: ASTM C 920, material having a minimum joint movement of 50% with 100% recovery. Type, grade and use shall be as recommended by the sealant manufacturer.

PART 3 EXECUTION

3.1 INSPECTION

Examine substrate, opening supports and conditions under which this work is to be performed. Notify Resident Engineer in writing of conditions detrimental to the proper completion of this work. Do not proceed with work until unsatisfactory conditions have been corrected.

3.2 CONTROL JOINTS

- A. See drawings for location of building control joints where applicable and install surface control joints as follows:
- B. Direct Exterior Finish: Install at 6 meters (20 feet) o.c. maximum in either direction, at building expansion joints, intersection of dissimilar substrates or finishing materials where concentrated stresses or movement is anticipated. Leave a 13 mm (1/2") minimum

continuous gap between board panels to receive control joint per manufacturer's recommendations.

3.3 SEALANTS:

- A. Apply according to manufacturer's recommendations and the following:
- B. Direct Exterior Finish System: Caulk all intersections of cement board with windows, doors, control joints, other openings and locations as shown on drawings. Do not caulk locations intended for water drainage.

3.4 ACCESSORIES:

Install according to manufacturer's recommendation.

3.5 FINISH:

- A. Synthetic Stucco Finish:
 - 1. Joint Reinforcement: Pre-fill cement board joints and trim with synthetic stucco Base Coat mixed according to manufacturer's directions. Immediately embed reinforcing tape into wet Base Coat and tightly trowel to board surface to avoid crowning joints. Cure for a minimum of four hours before application of base coat.
 - 2. Base Coat: Apply base coat a minimum of 1.6 mm (1/16") uniformly smooth and flat over the entire surface including joints and trim. Dampen board surface as necessary under rapid drying conditions. Embed reinforcing fabric in basecoat while wet and cover with basecoat material so pattern of fabric is not visible.
 - 3. Finish: Trowel apply ready-mixed exterior finish to base coat texturing surface as specified to a uniform thickness of 1.6 mm to 4.8 mm (1/16" to 3/16"). Dampen base coat as necessary under rapid drying conditions. Joining between batches shall occur at surface breaks such as corners, control joints, windows, etc.

3.6 CLEAN UP:

Upon completion, remove all scaffolding, equipment, materials and debris from site. Remove all temporary protection installed to facilitate installation of system.

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