

## PART 1 - GENERAL

### 1.1 REFERENCES

The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

#### AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM G 23	Accelerated Weathering
ASTM E 84	Flame Spread, <25, Class 1
ASTM E 96	Water Vapor Transmission
ASTM C 150	(1997; Rev. A) Portland Cement
ASTM C 206	(1984; R 1997) Finishing Hydrated Lime
ASTM D 412	Physical Properties
ASTM E 1032	Woven Wire Lathe
ASTM E 1042	(1992; R 1997) Acoustically Absorptive Materials Applied by Trowel or Spray
ASTM C 1063	Installation of Lathing and Furring to Receive Interior and Exterior Portland Cement-Based Plaster
ASTM D 2247	Moisture Resistance
ASTM D 4541	Adhesion to Concrete

### 1.2 RELATED DOCUMENTS

The following sections of the specifications apply to this section:

- a. Section 05400 Cold-Formed Metal Framing.
- b. Section 09250 Gypsum Board for light-gage metal framing and furring and exterior gypsum board.

### 1.3 SUBMITTALS

Submit the following in accordance with Section 01330, "Submittal Procedures."

#### 1.3.1 SD-04, Samples

- a. Elastomeric exterior finish
- b. Submit four 36 inch square color selection samples of varying texture for the Contracting Officer's approval.

After selection of an acceptable texture, construct a sample wall separate from the building, 3 feet in height, by 3 feet in length, using 6 inch metal studs, and gypsum board, metal lath and stucco. The sample wall shall show all aspects of stucco work, including but not limited to, expansion joints, control joints, corner extrusions, and casing beads. A sample of a control joint, extrusion butt joint shall also be incorporated into the sample wall. Finish stucco work shall match the approved sample panel. The Contractor shall protect the sample wall from damage during the length of the contract.

#### 1.3.2 SD-08, Manufacturer's Instructions

- a. Elastomeric exterior finish

Submit manufacturer's printed mixing instructions for stucco basecoats and elastomeric exterior finish.

#### 1.4 QUALITY ASSURANCE

Erect sample panel at the building site, or as otherwise directed. Finished work shall match the approved sample panel.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

1.5.1 Deliver manufactured materials in the manufacturers' original unbroken packages or containers which are labeled plainly with the manufacturers' names and brands.

1.5.2 Keep cementitious materials dry and stored off the ground, under cover, and away from sweating walls and other damp surfaces until ready for use.

1.5.3 Keep elastomeric out of direct sunlight in tightly sealed containers at 40 degrees or above.

#### 1.6 ENVIRONMENTAL CONDITIONS

##### 1.6.1 Gypsum Plaster

Maintain an ambient temperature of not less than 15 degrees C 55 degrees F continuously in the areas to be plastered. Maintain this temperature for not less than one week prior to the application of plaster, while performing plastering, while the plaster is drying, and after the plaster is dry until normal occupancy heating conditions are established. Distribute heat in all areas. Provide regulated ventilation to prevent "sweatouts" or "dry-outs." When the building is exposed to hot dry winds or day-to-night temperature differentials of 10 degrees C 20 degrees F or more, cover openings that are not glazed. Provide permanent ventilation for spaces enclosed by suspended ceilings.

##### 1.6.2 Portland Cement-Lime Stucco

Maintain an ambient temperature of not less than 4 degrees C 40 degrees F continuously where stuccoing work will be performed. Maintain this temperature for not less than 48 hours prior to the application of stucco, while performing stuccoing, and during the curing operation.

- a. Provide moist curing in accordance with paragraph entitled "Scratch Coats for Stucco."

### 1.6.3 Protection from Sun and Dry Winds

During the application of the finish coat, and for a period of 48 hours following the completion of finish coat application for any given area, protect the surface from direct sunlight and direct winds. Use of tarpaulins or other temporary means are acceptable.

## PART 2 - PRODUCTS

### 2.1 PORTLAND CEMENT

ASTM C 150, gray portland cement Type I with 1/2 inch chopped alkali resistant fiberglass strands, minimum 1.5 percent by weight to cement 1 1/2 pounds per sack of cement.

### 2.2 HYDRATED LIME

ASTM C 206, Type S.

### 2.3 AGGREGATES

#### 2.3.1 Sand for Portland Cement Lime and Stucco

ASTM C 144, except gradation of sand shall conform to the following requirements:

a. Sand Gradation for Basecoats:

		Percentage Retained by weight (plus or minus 2 percent) on each sieve	
Sieve No.	Size	Min.	Max.
No.	4	0	0
No.	8	0	10
No.	16	10	40
No.	30	30	65
No.	50	70	90
No.	100	95	100

### 2.4 WATER

Suitable for domestic consumption, and free of mineral and organic substances that affect the hardening and durability of the plaster or stucco.

### 2.5 BASECOATES

#### 2.5.1 Proportioning and Mixing

Unless specified otherwise, materials are specified on a volume basis and shall be measured in approved containers, which will ensure that the specified proportions will be controlled and accurately maintained during the progress of the work. Measuring materials with shovels (shovel count) will not be permitted.

### 2.5.2 Portland Stucco Basecoats

Mix scratch coat in proportion of one part by volume portland cement, 3/4 parts by volume hydrated lime and 2 1/2 to 4 parts sand (volume of sand per sum of cement and lime). Mix brown coat in proportion of one part by volume portland cement, 3/4 parts by volume hydrated lime and 3 to 5 parts sand (volume of sand per sum of cement and lime).

### 2.5.3 Mixing

Mix materials in approved mechanical mixers of the type in which the quantity of water can be controlled accurately and uniformly, except that finish coats containing lime may be hand mixed. While the mixer is in continuous operation, add approximately 90 percent of the estimated quantity of water, half of the sand, and all of the cementitious materials. Introduce the other one-half of the sand into the mixer in that same sequence and mix thoroughly with the remainder of the water until the mixture is uniform in color and consistency. Avoid excessive mixing and agitation. Discard stucco which has begun to set before it is used; retempering will not be permitted. Do not use frozen, caked, or lumped materials. Empty mixers and mixing boxes after each batch is mixed, and keep free of old plaster.

## 2.6 FINISH COAT

Ready-mix acrylic-based texture and color coat with elastomeric binder. Color to be El Rey Dutch Cream 34A-2P or equal for main color, and El Rey Clove Dust 11C-2T or equal for accent color at top of stairwell and screen.

### 2.6.1 Manufacturers

Subject to compliance with requirements, recommended services are:

- a. Dryvit Systems Inc.; Weatherlastic
- b. EL Rey Stucco Co.; Permaflex
- c. STO Industries

### 2.6.2 Acrylic-Based Finish Coat

Factory-mixed formulation of acrylic emulsion, colorfast mineral pigments, fine aggregates and elastomeric binder specifically recommended by acrylic-based finish manufacturer for use over portland cement stucco basecoats.

### 2.6.3 Mixing

Thoroughly mix finish coat material in its original container with electric mixer suited to the task until a uniform workable consistency is attained.

## 2.7 ACCESSORIES

Comply with material provisions of ASTM C 1063 and the requirements that follow. Coordinate depth of accessories with thicknesses and number of stucco coats required.

### 2.7.1 Vapor-Retardant Paper: Grade B, Style 1 with flame spread rating of 25 per ASTM E 84.

2.7.2 Woven-Wire Lath: ASTM C 1032, fabricated into 1 1/2 inch hexagonal-shaped mesh with minimum 0.0510 inch diameter, galvanized steel wire.

- a. Self-furring.

2.7.3 Diamond-Mesh Lath

- a. Configuration: self-furring
- b. 2.5 lbs./sq. yd.

2.7.4 Cornerbead:

Small-nose corner beads fabricated from the following metal, with expanded flanges of large-mesh diamond-metal lath allowing fill stucco encasement.

- a. Aluminum: minimum 0.050 inch thick; or
- b. Galvanized Steel: minimum 0.0172 inch thick

2.7.5 Casing Bead: Square-edged style with expanded ranges of the following:

- a. Aluminum: minimum 0.050 inch thick; or
- b. Galvanized Steel: minimum 0.0172 inch thick

2.7.6 Control Joints: Prefabricated one-piece type of material below:

- a. Galvanized Steel: minimum 0.0172 inch thick
- b. Provide removable protective tape on face of control joints.

2.7.7 Foundation Sill Screed/Stop

Square-edged style for use at sill plate line to form stucco stop; fabricated from galvanized steel with expanded flange.

## PART 3 - EXECUTION

### 3.1 SURFACE PREPARATION

Clean surfaces to receive stucco of projections, dust, loose particles, grease, bond breakers, and foreign matter. Do not apply stucco directly to surfaces (1) of masonry or concrete that have been coated with bituminous compound or other waterproofing agents, or (2) that have been painted or previously plastered. Before stucco work is started, wet masonry and concrete surfaces thoroughly with a fine fog spray of clean water to produce a uniformly moist condition. Check metal grounds, corner beads, screeds, and other accessories carefully for alignment before starting work. Do not apply stucco to surfaces containing frost. Check control joints at supporting metal structures to ensure that control joints can move unrestrained.

### 3.2 APPLICATION OF STUCCO

#### 3.2.1 Workmanship

- a. Apply Portland cement and lime stucco in two coats: scratch and brown.
- b. Apply acrylic-based texture and color coat in one coat.
- c. Apply base coats, scratch and brown, with sufficient pressure and ensure stucco is sufficiently plastic to provide a strong bond to bases.
- d. Work base coats into screeds at intervals as shown. Stucco shall not be continuous across expansion and control joints occurring in walls, partitions, and ceilings.
- e. Finish stucco work level, plumb, square, and true, within a tolerance of one in 1/8 inch in 8 feet, without waves, cracks, blisters, pits, crazing, discoloration, projections, or other imperfections.
- f. Form stucco work carefully around angles and contours, and well-up to screeds. Take special care to prevent sagging and consequent dropping of applications. There shall be no visible junction marks in finish coat where one day's work adjoins another.

### 3.3 PORTLAND CEMENT-LIME STUCCO

#### 3.3.1 Scratch Coat – Coat 1

Apply the scratch coat over paper and lath not less than 3/8 inch thick; light score horizontally and moist cure for not less than 24 hours.

#### 3.3.2 Brown Coat – Coat 2

- a. Apply brown coat only after scratch coat has cured for not less than 24 hours in addition to the moist cure period.
- b. Apply the brown coat to bring the base coat out to the screeds, compact and straighten to a true surface with rod and darby, and float to receive the finish coat.
- c. Moist cure for not less than 24 hours.

#### 3.3.3 Finish Coat – Coat 3

- a. Apply finish coat only after brown coat has cured for not less than 10 days in addition to the moist cure period.
- b. Apply acrylic-based finish coat in accordance with manufacturer's instructions and not less than 1/8 inch thick.
- c. Finish coat shall be of the color and texture selected.

#### 3.3.4 Final thickness to be not less than 5/8 inch thick.

END OF SECTION

