

Exterior Wall Systems

**Section 09220 or 09 24 33
Stucco Wall System**

**CONPRO ONE COAT
& CONPRO STUCCO**

PART I: GENERAL

1.01 DESCRIPTION

Provide labor, materials, equipment and supervision necessary to complete the application of product to the substrate.

1.02 QUALITY ASSURANCE

Products shall be installed by a trained applicator with a minimum of five years experience and meet the requirements of the specifier.

1.03 SUBMITTALS

- A. Manufacturer's current product data bulletin.
- B. The trained applicator shall prepare a sample panel of the system as a submittal for approval of proper application, color and texture.
- C. The trained applicator shall submit to the specifier a list of five projects that he has completed within the last five years, exhibiting the applicator's skills. The list shall include project name, location, and description of work and completion date.

1.04 PRODUCT DELIVERY, STORAGE & HANDLING

- A. Deliver all products and all accessories in original labeled, sealed, and undamaged containers or bundles.
- B. Store all products in accordance with manufacturer's printed instructions.
- C. Handle products in accordance with manufacturer's printed instructions.

1.05 JOB CONDITIONS

All products shall be applied at substrate and ambient temperatures of 40°F or above. A minimum temperature of 40°F shall be maintained 24 hours after completion of work. Protect products from weather and other damage for a period of 24 hours after installation. Do not apply products to frozen surfaces.

1.06 COORDINATION & SCHEDULING

The work requires close coordination with related sections and trades.

PART II: PRODUCTS

2.01 MANUFACTURERS

The following manufacturers are approved for the project.

Conproco Corporation

2.02 MATERIALS

- A. Trim Accessories (if necessary): Expansion joints, corner beads and casing beads shall be rigid PVC exterior grade as manufactured by Plastic Components, Inc., Miami, FL, or 100% zinc components as manufactured by Keene Corp., Parkersburg, WV.
- B. K-88 Admix: An acrylic admixture designed to enhance the performance of Portland cement-based products.

Specifiers Note: Insert the following product for a colored stucco system and delete the above product.

- C. Color K-88 Admix: Acrylic admixture (integrally colored) designed to enhance the performance of Portland cement based products.
- D. Conpro One Coat: Polymer-modified, fiber reinforced, cement based concentrate that combines the scratch and brown coat in one application.
- E. Conpro Stucco: Durable, traditional, Portland cement-based, pre-blended stucco finish.

Color: _____

- F. Sealant: A one or two part polyurethane sealant as manufactured by _____.

Specifiers Note: Insert the following product for an alternate method for a colored stucco system. The option is to choose Super Color Stain in the same color as Color K-88 Admix or to delete Color K-88 Admix.

- G. Super Color Stain VO: A water based, opaque, acrylic stain for vertical surfaces.

Color: _____

2.03 PERFORMANCE CHARACTERISTICS

General Physical Properties: The products shall meet or exceed the following performance standards:

One Coat:

Physical state and appearance		Gray powder		
Base		Portland cement		
pH	Wet mix	>12		
Water/cement ratio	Wet mix	0.58		
Dry bulk density	ASTM C188	66 lbs./ft. ³		
		7 Days	14 Days	28 Days
Compressive strength – psi	ASTM C109	1600	1900	2250
Tensile strength – psi	ASTM C307	280	350	420

Conpro Stucco:

Physical state and appearance		Fine, gray or white powder		
Base		Portland cement		
pH	Wet mix	>12		
Water/cement ratio	Wet mix	0.55		
Density	Wet mix	110 lbs./ft. ³		
Setting time by vicat needle	ASTM C191	Initial 60 minutes – Final 285 minutes		
Percent air by volumetric	ASTM C173	5 – 7%		
		7 Days	14 Days	28 Days
Compressive strength – psi	ASTM C109	3375	3400	3500
Tensile strength – psi	ASTM C307	300	395	460

K-88 Admix:

Physical state and appearance		Milky liquid		
Base		Aqueous		
Polymer		100% acrylic		
Odor		Ammoniacal		
pH		>8		
Percent solids by weight		27%		
Density of liquid coatings	ASTM D1475	8.4 lbs./gal.		
Results typical for 3/4 – 3 inch mix		7 Days	14 Days	28 Days
Compressive strength	ASTM C109			
Design mix without K-88 Admix – psi		2725	3375	3725
Design mix with K-88 – psi		3400	4150	4700
Percent increase - %		25	23	26
Tensile strength	ASTM C307			
Design mix without K-88 – psi		95	360	360
Design mix with K-88 Admix – psi		385	390	400
Percent increase - %		30	8	11

Specifiers Note: Insert the following product for a colored stucco system and delete the above product.

Color K-88 Admix:

Physical state and appearance		Colored liquid		
Base		Aqueous		
Polymer		100% acrylic		
Odor		Ammoniacal		
pH		>9.5		
Percent solids by weight	Wet mix	45 – 65% by weight depending on color		
Density of liquid coatings	ASTM D1475	8.4 lbs./gal.		
		7 Days	14 Days	28 Days
Compressive strength	ASTM C109			
Design mix without Color K-88 – psi		2725	3375	3725
Design mix with Color K-88 Admix – psi		3400	4150	4700
Percent increase - %		25	23	26
Tensile strength	ASTM C307			
Design mix without Color K-88 – psi		95	360	360
Design mix with Color K-88 Admix – psi		385	390	400
Percent increase - %		30	8	11

Specifiers Note: Insert the following product for an alternate method for a colored stucco system. The option is to choose Super Color Stain in the same color as Color K-88 Admix or to delete Color K-88 Admix.

Super Color Stain VO:

Physical state and appearance		Liquid – milky white		
Base		Aqueous		
Polymer		100% acrylic		
pH		8.7		
Percent solids by weight		33.6%		
Percent solids by volume		26.8%		
Viscosity	ASTM D562	81 KU – paint paddle		
Volatile organic content – VOC	ASTM D3960	Less than 0.32 lbs./gal. – 38 gms./liter		
Density of liquid coatings	ASTM D1475	9.64 lbs./gal.		
Drying time		2 hours @ 65°F – dry to touch		
Water vapor transmission	ASTM E96	15 perms – 1 coat @ 5 mils. wet		
Fungus resistance	Fed. Spec. TT-P-19D	Pass – no growth		
Accelerated weathering – QUV	ASTM G154	2000 hours – UV-B cycled with condensation - no effect		

Hiding power of coating	ASTM D2805	Excellent
Water penetration and leakage	ASTM E514	100% reduction – 2 coats
Resistance to rapid freeze/thaw	ASTM C666	Pass – 3 cycles
Heat stability	ASTM C932	Pass – 2 weeks @ 120°F
Mud cracking @ 15 mils.		None

PART III: EXECUTION

3.01 GENERAL

- A. Installation shall be performed strictly in accordance with manufacturer’s current product data bulletin.
- B. Examine substrates and conditions under which materials will be installed. Do not proceed with installation until unsatisfactory conditions are corrected.
- C. Coordinate installation with adjacent work to ensure proper sequence of construction. Protect adjacent areas and landscaping from contact due to mixing, handling and application of materials.

3.02 SURFACE PREPARATION

Prior to application of the products, inspect the substrate for proper cleaning and treatment of structural cracks, texture differences, damage, etc. Work shall not proceed until unsatisfactory conditions are corrected.

3.03 MIXING

A. One Coat:

- 1. Mix 110 lbs. of plaster sand (30-70 mesh) with one 50 lb. bag of One Coat.
- 2. Sand should have a maximum iron content of 0.25% and maximum organic content of 0.10%.
- 3. Add ten quarts of water to the dry and mix with a mechanical mixer.
- 4. Add up to one additional quart of water to achieve workability. Mixing time should not exceed 5 minutes.
- 5. Do not retemper.

B. K-88 Admix & Color K-88:

Shake or stir K-88 Admix until homogeneous. Do not over mix.

C. Conpro Stucco with K-88 or Color K-88 Admix:

- 1. Mix with low speed mixer until homogeneous. Do not use a high-speed mixer or over mix.
- 2. Add one quart of K-88 Admix to the mixing water for each 50 lb. bag. Use low speed mechanical agitation and mix for 3 minutes. Adjust water addition to achieve a trowel-like consistency. Allow to breathe for 1 minute and re-mix for an additional minute.
- 3. For integral color add 1 quart of the Color K-88 Admix in the specified color to 4 quarts of clean water.
- 4. Add in 1 bag of white Conpro Stucco to the liquid, mix for 3 minutes using a low speed drill and mixing paddle or mortar mixer. Allow to breathe for 1 minute and remix for 1 minute.

3.04 APPLICATION

A. Flashing:

Install flashing around all window and door openings and wall penetrations according to manufacturers recommendations.

B. Trim Accessories:

1. Joint and trim accessories shall be mechanically attached to the substrate.
2. Attach Stop Bead to top of walls, adjacent to windows and other openings. Set at a distance of 3/8 to 1/2 inches away from the opening to create a space for caulk joint.
3. Expansion Joints shall be installed so that no panel is over 144 sqft. The length to width ratio must not exceed 2.5 to 1.
4. Install Expansion and Control Joints so that all vertical joints are continuous. At intersections the vertical joint shall be continued.
5. At joints in the trim, butt the joints. Do not overlap.
6. All accessory butt joints shall be set in a silicone sealant.

C. Reinforcing:

1. Cut the metal lath to full panel lengths; overlap the flanges of trim accessories.
2. Hang the metal lath by installing mechanical fasteners through the lath into the substrate. Use one mechanical fastener per 1 1/3 sq. ft. Use of 12" spacing on each stud for 16" o/c framed structures will provide one fastener per 1 1/3 sq ft.
3. The lengths of metal lath should overlap each other by at least 2"

D. Conpro One Coat:

1. Apply a scratch coat (3/16") with a trowel.
2. When set to a thumbprint, apply brown coat to achieve final thickness.
3. Final thickness must be 3/8" or greater.
4. Finish using traditional plastering techniques.
5. Keep damp with a fine mist of water for 24 hours. Protect from direct sunlight, wind, rain and frost during curing period.

E. Conpro Stucco:

1. Dampen surface with water immediately prior to application.
2. Apply a key coat, filling all voids.
3. Work to a natural breaks to avoid cold joints.
4. Allow material to take up to thumbprint hard.
5. Trowel or spray texture coat.

Specifiers Note: Insert the following product for an alternate method for a colored stucco system. The option is to choose Super Color Stain in the same color as Color K-88 Admix or to delete Color K-88 Admix.

F. Super Color Stain VO:

1. Follow manufacturer's instructions for application and coverage.
2. Apply with brush, sprayer or roller in an even coat to achieve desired appearance.
3. Do not exceed 6 mils. wet per application.

4. Do not apply to frozen surfaces.
5. One coat is usually sufficient, however, successive coats can be applied after the previous coat is dry to the touch.
6. Temperature of the substrate and atmosphere must be 45°F or above during application and for the full curing cycle.

3.05 CURING

Protect from direct sunlight, wind, rain and frost during the curing period.

3.06 JOB SITE CLEANUP

- A. Material left over at the job site by the approved applicator shall be removed.
- B. All adjacent surfaces and materials shall be cleaned.
- C. Any foreign material resulting from the work of the approved applicator shall be removed.

*****END OF SECTION*****



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