

CSI SECTION 09 24 00 – PORTLAND CEMENT PLASTER

Fiber Reinforced Three-Coat Stucco with Rigid Insulation, Enhanced Water-Resistive Barrier and Optional Crack Resistance

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Supply and installation of fiber reinforced, one-coat stucco system with exterior rigid insulation, enhanced water-resistive and air barrier, optional crack resistance.

1.2 RELATED SECTIONS

- A. Section 03 30 00 - Cast-in-Place Concrete
- B. Section 04 20 00 - Unit Masonry
- C. Section 06 16 00 - Sheathing
- D. Section 07 25 00 - Weather Barriers
- E. Section 07 62 00 - Sheet Metal Flashing and Trim
- F. Section 07 90 00 - Joint Protection
- G. Section 08 50 00 - Windows
- H. Section 09 21 16 - Gypsum Board Assemblies

1.3 REFERENCES

- A. ASTM C144 Standard Specification for Aggregate for Masonry Mortar
- B. ASTM C578 Specification for Preformed, Cellular Polystyrene Thermal Insulation
- C. ASTM C847 Standard Specification for Metal Lath
- D. ASTM C897 Standard Specification for Aggregate for Job-Mixed Portland Cement-Based Plaster
- E. ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster
- F. ASTM C933 Standard Specification for Welded Wire Lath
- G. ASTM C1032 Standard Specification for Woven Wire Plaster Base
- H. ASTM C1063 Standard Specification for Installation of Lathing and Furring for Portland Cement Based Plaster
- I. ASTM C1177 Specification for Glass Mat Gypsum for Use as Sheathing
- J. ASTM C1278 Specification for Fiber-Reinforced Gypsum Panel
- K. ASTM C1396 Standard Specification for Gypsum Board
- L. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials
- M. ASTM E119 Method for Fire Tests of Building Construction and Materials
- N. ASTM E330 Test Method for Structural Performance of Windows, Curtain Walls, and Doors by Uniform Static air Pressure Difference
- O. ASTM G153 Standard Practice for Operating Enclosed Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials
- P. ICC AC 212 Acceptance Criteria For Water-Resistive Coatings Used As Water Resistive Barriers Over Exterior Sheathing
- Q. ICC AC 219 Acceptance Criteria for Exterior Insulation And Finish Systems

1.4 SYSTEM DESCRIPTION :

- A. Three-Coat Stucco System with Rigid Continuous Insulation and Enhanced Water-Resistive Barrier: liquid-applied water-resistive and air barrier with sheathing joint tape reinforcement, exterior rigid continuous insulation, wire fabric or metal lath, pre-mixed stucco base coat, and either an acrylic or elastomeric based finish coat.

-OR-

[B. Three-Coat Stucco System with Rigid Continuous Insulation and Enhanced Water-Resistive Barrier Coating with Crack Resistance: liquid-applied water-resistive and air barrier with sheathing joint tape reinforcement, exterior rigid continuous insulation, wire fabric or metal lath, pre-mixed stucco base coat, fiberglass reinforcing mesh embedded in stucco leveling coat, and either an acrylic or elastomeric based finish coat.

C. Stucco Functional Criteria:

1. General: Stucco application shall be to vertical substrates or to substrates sloped for positive drainage. Substrates sloped for drainage shall have additional protection from weather exposure that might be harmful to coating performance.
2. Performance Requirements of Water Resistive and Air Barrier Coating:

WeatherSeal	Method	ICC and ASTM E2570 Criteria	Results
Accelerated Weathering /Aging	AC 212	25 Cycles followed by Hydrostatic Pressure Test: No water penetration	Pass: no water penetration
Air Infiltration	ASTM E2178	Calculated flow Rate at 75 Pa (1.57 lb/ft2, 0.3 in H2O) = < 0.02 L/m2*s (< 0.004 cfm/ft2)	< .00001 L/m2*s (0.00001 cfm/ft2) at 75 Pa (1.57 lb/ft2, 0.3 in H2O)
Air Leakage of Air Barrier Assemblies	ASTM E2357	Pass < 0.2 L / s·m2 at 75 Pa (< 0.04 cfm / ft2 at 1.57 psf)	Pass
Air Leakage	ASTM E283	No Criteria	< 0.004 cfm/ft2
Elongation	ASTM D412	No Criteria	360%
Flexibility	ASTM D522	No Criteria	No Cracking at 1/8 in (3 mm)
Freeze-Thaw Resistance	ASTM E 2485	10 Cycles	Pass – No Deleterious Effects
Hydrostatic Pressure Test	AATCC 127 (Water Column)	Resist 21.6 in (55 cm) water for 5 hours before and after aging	No water penetration before and after aging
Nail Seal ability, Head of Water	ASTM D1970	No Criteria	Pass
Evaluation of Fire Propagation	NFPA 285	In Accordance with IBC Chapter 26	Meets requirements for use on all Types of construction
Radiant heat exposure	NFPA 268	In Accordance with IBC Chapter 26	No ignition upon 20 minute radiant heat exposure at 1.25 w/cm2.
Pull off Strength	ASTM D4541	No Water Penetration	Pass: No water penetration
Racking	ASTM E72	Deflection at 1/8 in (3.2 mm)	Pass: No cracking at field, joints or flashing connection
Restrained Environmental	ICC ES AC 212 / ASTM E2570	5 Cycles of wetting and drying	Pass: No cracking at field, joints or flashing connection
Structural Loading	ASTM E1233 Procedure A	10 Cycles @ 80% design load	Pass: No cracking at field, joints or flashing connection
Surface Burning Characteristics	ASTM E84	Flame Spread <25 Smoke Developed <450	Flame Spread =0 Smoke Developed =0
Tensile Bond Strength	ASTM E2134/ ASTM C297	Minimum 15 psi (104 kPa)	Pass: All listed substrates and flashing materials
Water Resistance	ASTM D2247	14 Days	Pass: No Deleterious Effects.

Water Penetration	ASTM E331	2.86 psf (137 Pa) for 15 minutes	Pass: 25.4 psf (1216 Pa) for 165 minutes
Water Penetration	ASTM E331	Tested after Structural Loading, Racking and Restrained Environmental Cycling at 2.86 psf (137 Pa) for 15 minutes	No Water Penetration
Water Vapor Transmission	ASTM E96		12 Perms (Spray & Roll-On) 6 Perms (Trowel-On)

4. Performance Requirements of Stucco System :

Test	Method	ICC AC 11 Criteria	Results
Accelerated Weathering	ASTM G153	2000 Hours	No deleterious effect
Freeze-Thaw Resistance	ICC AC 11	10 cycles	Pass
Transverse Wind Load Resistance	ASTM E330	Meet Design Loads	Refer to ICC-ES ESR-2564
Fire Resistance	ASTM E119	One hour fire	Refer to ICC-ES ESR-2564
Drainage	ICC AC 11	90 %	Refer to ICC-ES ESR-2564

5. Substrate materials and construction shall conform to the building code having jurisdiction.
 6. Performance Requirements of Coatings applied to Expanded Polystyrene features: Must comply with ASTM E 2568 or ICC Acceptance Criteria AC 219 for EIFS.
 7. Substrates shall be sound, dry and free of dust, dirt, laitance, efflorescence and other harmful contaminants.
 8. Substrate Dimensional Tolerances: Flat with 1/4 in (6.4 mm) within any 10 ft (3 m) radius.
 9. Maximum deflection of substrate system under positive or negative design loads shall not exceed L/360 of span.
- D. Expansion and Control Joints: Continuous expansion and control joints shall be installed at locations in accordance with ASTM C1063 and ASTM C926.
1. Substrate movement, and expansion and contraction of stucco and adjacent materials shall be taken into account in design of expansion joints, with proper consideration given to sealant properties, installation conditions, temperature range, coefficients of expansion of materials, joint width to depth ratios, and other material factors. Minimum width of expansion joints shall be as specified by the designer or shown on the project drawings.
 2. In accordance with ASTM C1063, expansion or control joints shall be installed in walls not more than 144 ft² (13.4 m²) in area, and not more than 100 ft² (9.3 m²) in area for all non-vertical applications. The distance between joints shall not exceed 18 ft (5.5 m) in either direction or a length-to-width ratio of 2-1/2 to 1.

1.5 SUBMITTALS

- A. General: Submit Samples, Evaluation Reports and manufacturer's product data sheets in accordance with Division 1 General Requirements Submittal Section.
- B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make available, at job site, approved samples.
- C. Manufacturer's Warranty: Submit sample copies of Manufacturer's Warranty indicating Single Source Responsibility for stucco system materials.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer: Shall have marketed stucco systems in United States for at least ten years and shall have completed projects of same general scope and complexity.
 - 2. Applicator: Shall be experienced and competent in installation of stucco materials, and shall provide evidence of a minimum of five years experience in work similar to that required by this section.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver stucco system materials in original packaging with manufacturer's identification.
- B. Storage: Store stucco system materials in a dry location, out of direct sunlight, off the ground, and protected from moisture.

1.8 SITE / ENVIRONMENTAL CONDITIONS

- A. Substrate Temperature: Do not apply stucco system materials to substrates whose temperature are below 40°F (4°C) or contain frost or ice.
- B. Inclement Weather: Do not apply stucco system materials during inclement weather, unless appropriate protection is employed.
- C. Sunlight Exposure: Avoid, when possible, installation of the stucco system materials in direct sunlight. Application of finishes in direct sunlight in hot weather may adversely affect aesthetics.
- D. Do not apply stucco base coats or finishes if ambient temperature falls below 40°F (4°C) within 24 hours of application. Protect stucco materials from uneven and excessive evaporation during dry weather and strong blasts of dry air.
- E. Prior to installation, the substrate shall be inspected for surface contamination, or other conditions that may adversely affect the performance of the stucco system materials and shall be free of residual moisture.

1.9 COORDINATION AND SCHEDULING:

- A. Coordination: Coordinate stucco system installation with other construction operations.

1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide manufacturer's Standard Limited Warranty.

EDITOR NOTE: SEE MANUFACTURER'S WARRANTY SCHEDULE FOR AVAILABLE STUCCO SYSTEM WARRANTIES.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer, Basis of Design: Parex USA, Inc., 4125 E. La Palma Ave., Suite 250, Anaheim, CA 92807 Contact: Architectural Sales (866.516.0061) or Technical Support (800.226.2424).
- B. Components: Obtain components manufactured by Parex USA of Parex Armourwall 300 WaterMaster CI Stucco System from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from Parex USA for this project.

2.2 MATERIALS

- A. Water-Resistive & Air Barrier over Sheathing:
 - 1. Parex USA WeatherSeal Spray & Roll-On water-resistive barrier coating. Two coats may be required on plywood and OSB.
 - 2. Parex USA WeatherSeal Trowel-On water-resistive barrier coating: 100% acrylic, non-cementitious, trowelable water-resistive and air barrier.
 - 3. Parex USA 396 Sheathing Tape: Non-woven synthetic fiber tape to reinforce WeatherSeal Spray & Roll-On water-resistive barrier coating at sheathing board joints, into rough openings and other terminations into dissimilar materials.

EDITOR NOTE: STUCCO BASE MAY BE APPLIED IN 2 PASSES UP TO AN APPROXIMATE THICKNESS OF BETWEEN 3/4 AND 7/8 INCHES. WHEN INSTALLED AT THIS THICKNESS IT MUST BE MOIST CURED IN ACCORDANCE WITH IBC OR IRC, AS APPLICABLE, FOR PORTLAND CEMENT PLASTER.

B. Stucco Base Coat (3/8 in – 1/2 in per coat):

1. Parex Fiber 47 Armourwall Scratch and Brown Base Concentrate: Proprietary mixture of portland cement and proprietary ingredients mixed with clean, cool, potable water, and ASTM C897 or ASTM C144 sand added in the field.

-OR-

2. Parex Fiber 47 Armourwall Scratch and Brown Sanded: Proprietary mixture of portland cement, and proprietary ingredients mixed with clean, cool, and potable water in the field.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE OPTIONAL ACRYLIC EMULSION FOR ENHANCED PERFORMANCE.

C. Stucco Admix:

1. Parex USA Adacryl Admix & Bonding Agent: 100% acrylic emulsion additive for portland cement based products to enhance curing, adhesion, freeze-thaw resistance and workability and as an acrylic polymer bonding agent.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE LEVELING AND REINFORCING COAT (D.) FOR ENHANCED CRACK RESISTANCE.

D. Leveling and Reinforcing Coat:

1. Parex USA Stucco Level Coat™: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.
2. Parex 121 Base Coat: 100% acrylic polymer base, requiring the addition of portland cement.
3. Parex 121 Dry Base Coat: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.
4. Parex USA Reinforcing Meshes:
 - a. Parex USA Stucco Mesh: Weight 4.5 oz/yd² (153 g/m²) reinforcing mesh.
 - b. Parex USA 355 Standard Mesh: Weight 4.5 oz/yd² (153 g/m²) reinforcing mesh.
 - c. Parex USA 358.10 Intermediate Mesh: Weight 12 oz/yd² (407 g/m²) reinforcing mesh.

EDITOR NOTE: STUCCO LEVEL COAT MUST NOT BE USED AS AN ADHESIVE OR BASE COAT FOR EXPANDED POLYSTYRENE INSULATION BOARD SHAPES OR FEATURES.

E. Expanded Polystyrene Features over Stucco:

1. Adhesive and Base Coat
 - a. Parex 121 Dry Base Coat & Adhesive: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.
 - b. Parex 121 Base Coat & Adhesive: 100% acrylic polymer base, requiring the addition of portland cement.
2. Insulation Board:
 - a. In compliance with manufacturer's requirements for Parex CI systems.
 - b. Produced and labeled under a third party quality program as required by applicable building code; and produced by a manufacturer approved by ParexUSA.
 - c. Shall conform to ASTM C578, ASTM E 2430 Type I, and the Parex USA specification for Molded Expanded Polystyrene Insulation board.
3. Reinforcing Mesh:
 - a. Parex USA 355 Standard Mesh: Weight 4.5 oz/yd² (153 g/m²) reinforcing mesh.
 - b. Parex USA 356 Short Detail Mesh: Reinforcing mesh used for backwrapping and details.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE PRIMER FOR MAXIMUM FINISH MATERIAL COVERAGE, AESTHETICS, AND EXTENDED WARRANTY.

F. Primer:

1. Parex USA PrimeShield: 100% acrylic based coating to prepare surfaces for acrylic or elastomeric finishes.
2. Parex USA QuikCure: 100% acrylic based coating to prepare surfaces for acrylic or elastomeric finishes.
3. Parex USA Primer: 100% acrylic based coating to prepare surfaces for acrylic or elastomeric finishes.
4. Variance VariPrime Sanded: 100% acrylic based coating to prepare surface for exposed aggregate specialty finishes.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE FINISH TYPE, TEXTURE, & COLOR WITH ACCESSORY MATERIALS TO CREATE DESIRED EFFECT.

G. Finish and Coatings:

1. Parex Ultra e-Lastic: A premium 100% acrylic-based elastomeric textured finish, integrally colored. Finish type, texture and color as eslected by Project Designer.
2. Parex e-Lastic® Finish: Factory blended, 100% acrylic polymer based elastomeric textured finish, integrally colored. Finish type, texture and color as selected by Project Designer
3. Parex AquaSol: 100% acrylic polymer based finish, enhanced DPR acrylic finish with hydrophobic and photocatalytic properties, repels water, reflects UV rays, and reduces smog particles near the finish surface. Finish type, texture and color as selected by Project Designer.
4. Parex DPR Optimum Finish: Factory blended, 100% acrylic polymer based finish, integrally colored. Finish type, texture and color as selected by Project Designer.
5. Parex DPR Standard Finish: Factory blended, 100% acrylic polymer based finish, integrally colored. Finish type, texture and color as selected by Project Designer.
6. Parex USA Elastomeric Coating: A 100% acrylic Elastomeric nontextured coating. Highly flexible: can bridge existing hairline cracks. Integrally colored with high quality pigments. Integrally colored with high quality pigments. Color as selected by Project Designer.
7. ParexAquaSol™ Coating: An acrylic-based exterior coating with hydrophobic and photocatalytic technology. AquaSol Coating cleans itself, is heat reflective and has pollution reducing properties. Integrally colored with high quality pigments. Color as selected by Project Designer.
8. Parex USA DPR Coating: 100% acrylic-based coating. DPRThe non-tacky surface provides high resistance to accumulation of dirt, mold, and pollutants. Excellent hiding power as well as flexibility and drying characteristics. Integrally colored with high quality pigments. Color as selected by Project Designer.

EDITOR NOTE: ADD COLORFAST PIGMENTS TO ANY PRE-TINTED ACRYLIC OR ELASTOMERIC FINISH SELECTION ABOVE FOR SATURATED/BRIGHTER AND INCREASED FADE RESISTANCE AND TO QUALIFY FOR A COLOR FADE WARRANTY.

- a. Parex USA ColorFast Pigments System: Fade resistant pigment system offering superior fade resistance; factory tinted only; used-with any Parex USA acrylic or elastomeric finish or coating.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE FINISH TYPE, TEXTURE, & COLOR WITH ACCESSORY MATERIALS TO CREATE DESIRED EFFECT.

9. Parex USA Variance Finish [enter selected product]: Acrylic-based specialty finish. Finish type, texture and color as selected by Project Designer.
 - a. Variance Antiquing Gel: a water-based, tinted, semi-transparent, acrylic emulsion for staining, sealing, and protecting concrete, masonry and other cementitious substrates. Use as required to achieve desired finish.

- b. Variance VariSeal is a 100% acrylic, water based sealer. Improves scratch and scuff resistance and adds depth of color.

EDITOR NOTE: ADD CLEAR SEALER WHERE ENHANCED CLEANABILITY IS DESIRED FOR HIGH SOILING EXPOSURES.

- 10. Parex USA Clear Sealer: 100% acrylic, transparent, permeable, dirt resistant sealer for use as a protective coating over acrylic finishes. Use 600 Clear or 610 Matte Clear as detailed on drawings.

H. Water: Clean, cool, potable water.

2.3 RELATED MATERIALS AND ACCESSORIES

- A. General: Stucco system materials and related materials shall conform to the requirements of ICC-ES Evaluation Report No. 2564 and shall conform to this specification.
- B. Substrate Materials:
 - 1. Gypsum Sheathing: Minimum 1/2 in (13 mm) thick, core-treated, weather-resistant, exterior gypsum sheathing complying with ASTM C79 or ASTM C1177.
 - 2. Cement Board Sheathing, Minimum 1/2 in thick, conforming to ASTM C1186.
 - 3. Fiberboard: Minimum 1/2 in (13 mm) thick fiberboard complying with ANSI/AHA A194.1 as a regular density sheathing.
 - 4. Plywood: Minimum 5/16 in (8 mm) thick exterior grade or Exposure I plywood for studs spaced 16 in (406 mm) o.c. and 3/8 in (9 mm) thick exterior type plywood minimum for studs spaced 24 in (610 mm) o.c. Plywood shall comply be exterior grade or Exposure 1 and comply with DOC PS-1.
 - 5. Oriented Strand Board (OSB): 7/16 -1/2 in Wall-16 or Wall-24, approved by the APA, TECO, or PSI/PTL. Stamped as Exposure 1 or Exterior Sheathing with a PS2 or PRP-108 rating. For OSB limitations on See Parex USA Technical Bulletin; EIFS and Stucco; Acceptable Substrates and Areas of Use.
 - 6. Concrete Masonry Construction: Non-painted (uncoated). Shall be in conformance with the building code.
 - 7. Other Approved by stucco system manufacturer in writing prior to the project.

EDITOR NOTE: DRAINAGE IS REQUIRED WHEN INSTALLING CONTINUOUS INSULATION BEHIND ONE COAT STUCCO. CHOOSE ONE OPTION FROM 2.3 C.

- C. Drainage behind continuous Insulation:
 - 1. EPS adhesively installed with Parex USA Adhesive installed in vertical ribbons in accordance with Commercial Drainage CI Application Guide
 - 2. Parex USA WeatherSeal covered by Dupont Tyvek Stuccowrap, DrainWrap, CommericalWrap D, or other water resistive barrier incorporating in itself a means of drainage and maintaining a current ICC Evaluation Report covered by Flat Insulation board.
 - 3. Parex USA WeatherSeal covered by Channeled Insulation Board.
 - 4. Parex USA WeatherSeal covered by Drainage Mat.

EDITOR NOTE: CONTACT TECHNICAL SERVICES FOR NON-COMBUSTIBLE, FIRE RATED OR THICKNESSES GREATER THAN 2".

- D. Continuous Insulation:
 - 1. Expanded (EPS), or Extruded (XPS), having a nominal density of 1 lb/ft³ (14 kg/m³).
 - 2. Polyisocyanurate Foam plastic complying with ASTM C1289 as Type II board with a nominal density of 2 pcf (32 kg/m³).

EDITOR NOTE: THE SELECTION OF AN APPROPRIATE TYPE OF MATERIAL FOR LATH AND ACCESSORIES SHALL BE DETERMINED BY APPLICABLE SURROUNDING CLIMATIC AND ENVIRONMENTAL CONDITIONS SPECIFIC TO THE PROJECT LOCATION, SUCH AS SALT AIR, INDUSTRIAL POLLUTION, HIGH MOISTURE, OR HUMIDITY.

- E. Lath and Accessories: Conform to ASTM C847, ASTM C933, ASTM C1032, ASTM C1063 and

Appendix.

1. Accessories: Manufacturer's standard steel products with minimum G60 galvanizing unless otherwise indicated as rigid polyvinyl chloride (PVC plastic) or zinc alloy.
2. Lath Locks: Wind-lock "Lath-lock" steel washer. 1 1/4" diameter, 24 gauge, galvanized steel mechanical fastening washer, having a countersunk central through-hole, and four (4) down-turned legs that prevent rotation during installation and keep the mesh from slipping out from under the plate, or equal.

EDITOR NOTE: SELECT LATH TYPE AND WEIGHT.

3. Metal Plaster Bases: Minimum 17 gauge self-furred stucco netting, minimum 2.5 lb/yd² (1.4 kg/m²) or 3.4 lb/yd² (1.8 kg/m²) expanded metal diamond lath, or welded wire lath in accordance with applicable codes and standards.
4. Weep Screeds: Foundation weep screed with minimum 3-1/2 inch vertical attachment flange.

EDITOR NOTE: THE SELECTION AND USE OF AN APPROPRIATE TYPE OF SEALANT SHALL BE DETERMINED BY APPLICABLE SURROUNDING CLIMATIC AND ENVIRONMENTAL CONDITIONS SPECIFIC TO THE PROJECT LOCATION.

- F. Seals, Sealants and Bond Breakers: Sealants shall conform to ASTM C 920, Grade NS, Class 25, Use NT. Backer rod shall be closed-cell polyethylene foam.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify project site conditions under provisions of Section 01 00 00.
- B. Compliance: Comply with manufacturer's instructions for installation of stucco system materials.

REMINDER: STUCCO SYSTEM MUST INSTALLED OVER A CODE COMPLYING WATER RESISTIVE BARRIER. WALL PERFORMANCE IS DEPENDENT UPON, AMONG OTHER FACTORS, PROPER FLASHING AND JOINT SEALING, AND ATTENTION TO PROPER FLASHING AND JOINT SEALANT DETAILS INDICATED ON DRAWINGS.

- C. Substrate Examination: Examine prior to stucco base installation as follows:
 1. Substrate shall be of a type approved by stucco system manufacturer and the building code having jurisdiction. Plywood and OSB substrates shall be gapped 1/8 in (3.2 mm) at all edges.
 2. Substrate shall be examined for soundness, and other harmful conditions.
 3. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
 4. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
- D. Advise Contractor of discrepancies preventing proper installation of stucco system. Do not proceed with the stucco system work until unsatisfactory conditions are corrected.

3.2 PREPARATION

IMPORTANT EDITOR NOTE: COORDINATE TERMINATIONS OF STUCCO ACCESSORIES WITH SEALANT SECTION OF THE SPECIFICATION IN ORDER TO LEAVE REQUIRED SPACINGS FOR SPECIFIED JOINT DIMENSIONS.

- A. Wire Fabric Lath and Metal Lath: Install according to ASTM C1063 and Appendix and the Building Code.
- B. Concrete (Cast-in-Place): Remove form ties and trim projecting concrete so it is even with the plane of the wall. Remove form release agents.
- C. Concrete Masonry Units: Remove projecting joint mortar so it is even with the plane of the wall. Remove surface contaminants such as efflorescence, existing paint or any other bond inhibiting material by sandblasting, water blasting, wire brushing, chipping or other appropriate means.
- D. Ensure that metal flashing has been installed per Specification Section 07 60 00 - Flashing and Sheet Metal.

3.3 MIXING

- A. Mix proprietary products in accordance with manufacturer's instructions, including the applicable stucco system product data sheets and application guidelines.
- [B. Admix: Parex USA Adacryl
 - a. Admix: Parex USA Adacryl
 - i. Mix up to 1 gal (3.8 L) per 1 bag of Parex Fiber-47 Armourwall Scratch and Brown Concentrate. Mix up to 1 qt (1 L) per bag of Parex Fiber-47 Armourwall Scratch and Brown Sanded. Add after dry components and the majority of the water has been mixed. Mix no longer than required to provide a uniform mixture. DO NOT OVER-MIX. Overmixing entrains excessive amounts of air which weaken the material. Do not re-temper mixes over 20 minutes old.

1.

3.4 APPLICATION

- A. General: Stucco system and its related materials shall conform to the requirements of ASTM C926 and shall conform to this specification. Follow Parex USA's current Stucco Application Guide.
- B. Water Resistive Barrier:
 - 1. Treat all sheathing joints with WeatherSeal water-resistive barrier with Parex USA Sheathing Joint Tape.
 - 2. Flash all rough openings with reinforced WeatherSeal.
 - 3. Apply WeatherSeal water-resistive barrier to the surface of the appropriate substrate (2 coats may be required on plywood and OSB).
 - 4. Allow to dry.
- C. Drainage:
 - 1. Install a drainage material from 2.3 Cover the WeatherSeal.
OR
 - 2. Install insulation board with Parex USA Adhesive installed in vertical ribbons in accordance with Commercial Drainage EIFS Application Guide.
- D. Continuous Insulation:
 - 1. Insulation Boards should be fastened to allow temporary placement until the lath is installed.
 - 2. The lath is applied tightly over the insulation board and fastened through the insulation board to studs. Care must be taken to avoid overdriving fasteners.
 - a. Welded and woven wire stucco bases: Install bugle head screws with 1 1/4" diameter galvanized washers (Wind-Lock, Lath Lock or equal).
 - b. Expanded metal lath: Install
 - 1) Modified truss head, minimum 7/16" head diameter corrosion resistant screws; screw type, diameter and length as appropriate for the wall construction.
OR
 - 2) Bugle head screws corrosion resistant screws with 1 1/4" diameter galvanized washers; screws type, diameter, and length as appropriate for the wall construction.
- E. Stucco Base:
 - 1. Scratch Coat:
 - a. Apply scratch coat to a minimum thickness of 3/8 in (9.5 mm), using sufficient trowel pressure to key stucco into lath or to create bond to substrates as applicable.
 - b. Prior to initial set, scratch horizontally to provide key for bond of brown coat.
 - c. Moist cure scratch coat with clean potable water for at least 48 hours in accordance with ASTM C926 and the building codes following initial application (unless brown coat is applied as soon as the scratch coat has achieved sufficient rigidity to support the brown coat).

2. Brown Coat:
 - a. Apply brown coat to a minimum thickness of 3/8 in (9.5 mm), using sufficient trowel pressure to key stucco into scratch coat.
 - b. Rod surface to true plane and float to densify.
 - c. Trowel to smooth and uniform surface to receive acrylic polymer finish coat.
1. Moist cure brown coat with clean potable water for at least 48 hours, in accordance with ASTM C926 and the building codes
2. Trowel to smooth and uniform surface to receive acrylic or elastomeric polymer finish coat.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE LEVELING AND REINFORCING COAT (F.) FOR ENHANCED CRACK RESISTANCE.

- F. Leveling and Reinforcing Coat:
 1. After Moist Curing, allow stucco base coat to air dry a minimum of 24 hours before applying the leveling and reinforcing coat.
 2. Using a stainless steel trowel, apply the stucco leveling coat over the stucco base coat at a thickness of 1/16 to 3/32 in (1.6 – 2.4 mm).
 3. Fully embed reinforcing mesh, either Stucco Mesh, 355 Standard Mesh or 358.10 Intermediate Mesh, into wet stucco level coat, including diagonal strips at corners of openings and trowel smooth. If Stucco Mesh or 355 Standard Mesh is used, seams are overlapped 2-1/2 in (63 mm); if 358.10 Intermediate Mesh is used, seams are butted and covered by strips of 356 Detail Mesh.
 4. The acrylic primers and finishes can be applied as soon as the stucco leveling coat has dried, typically within 24 hours.
- G. Expanded Polystyrene Featured over Stucco Base Coat:
 1. Install back-wrap mesh at EPS terminations.
 2. Apply adhesive to backs of insulation boards with a notched trowel. Allow to dry a minimum of 12 hours.
 3. Apply base coat material to the entire foam shape and pull the backwrap mesh around the foam shapes and fully embed it into the base coat.
 4. Immediately embed the reinforcing mesh in the wet base coat.
- H. Primer and Finish:
 1. Remove surface contaminants such as dust or dirt without damaging the substrate.
 2. Ambient and surface temperature must be 40°F (4°C) or higher during application and drying time. Supplemental heat and protection from precipitation must be provided as needed.
 3. Use only on surfaces that are sound, clean, dry, unpainted, and free from any residue that might affect the ability of the finish to bond to the surface.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE #4 or #5.

- [4. Parex Armourwall 300 WaterMaster CI Krak-Shield Stucco System .
 - a. Before the application of the finish, the base coat must have cured a minimum of 24 hours or longer as required by conditions. Examine the cured base coat for any irregularities.
 - b. Correct these irregularities to produce a flat surface.
 -OR-
- [5. Parex Armourwall 300 WaterMaster CI Stucco System .
 - a. After moist curing, allow the stucco base to air dry in accordance with Stucco Application Guide depending on type of finish coat and primer.
6. Apply primer as directed in manufacturer's product data sheet and application guide.
7. Apply exterior wall finish in number of coats thickness recommended by manufacturer to achieve texture indicated, using sufficient trowel pressure or spray velocity to bond finish to base coat.
8. Protect finish coats from inclement weather until completely dry.

I. Curing:

1. Keep stucco base coat moist for at least 48 hours (longer in dry weather) by lightly fogging walls. Start light fogging after initial set of 1–2 hours.
2. Air dry acrylic based and elastomeric finish coats only, do not wet cure.

3.5 CLEAN-UP

- A. Removal: Remove and legally dispose of stucco component debris material from job site.

3.6 PROTECTION

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed stucco from dust, dirt, precipitation, and freezing during installation.
- C. Provide protection of installed finish from dust, dirt, precipitation, freezing, and continuous high humidity until fully dry.
- D. Clean exposed surfaces using materials and methods recommended by the manufacturer of the material or product being cleaned. Remove and replace work that cannot be cleaned to the satisfaction of the Designer/Owner.

END OF SECTION

Disclaimer: This guide specification is intended for use by a qualified designer. The guide specification is not intended to be used verbatim as an actual specification without appropriate modifications for the specific use intended. The guide specification must be integrated into and coordinated with the procedures of each design firm, and the requirements of a specific project. For additional assistance, contact Parex USA's Architectural Sales (866.516.0061) or Technical Support (800-226-2424).