



Fiber-47 300 HE Cement Finish Specifications

CSI SECTION 09 24 00

CSI SECTION 09 24 00 – PORTLAND CEMENT PLASTER

El Rey® Fiber-47 300 HE (High Efficiency) Fiber Reinforced Stucco with Cement Finish and Optional Krakmaster

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Supply and Installation of El Rey Fiber-47 300™ HE (High Efficiency) Stucco Assemblies with Acrylic or Elastomeric Finish.

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 Acceptance Criteria 219 - Acceptance Criteria for Exterior Insulation And Finish Systems

1.4 ASSEMBLY DESCRIPTION

- A. El Rey Fiber-47 300 HE Stucco Assembly: A code complying water resistive barrier, Continuous Insulation, wire fabric or metal lath, El Rey Fiber-47 Scratch & Brown (El Rey Fiber-47 Scratch & Brown Concentrate or El Rey Fiber-47 Scratch & Brown Sanded) ($\frac{3}{4}$ in (19 mm)) and a cement finish coat.

-OR-

- A. El Rey Fiber-47 300 Krakmaster™ HE Stucco Assembly: A code complying water resistive barrier, Continuous Insulation, wire fabric or metal lath, El Rey Fiber-47 Scratch & Brown (El Rey Fiber-47 Scratch and Brown Concentrate or El Rey Fiber-47 Scratch & Brown Sanded) ($\frac{3}{4}$ in (19 mm)), El Rey reinforcing mesh embedded in Stucco Level Coat, Parex USA Adacryl Bonder & Admix and a cement finish coat.

1.5 SUBMITTALS

- A. General: Submit Samples, Evaluation Reports and manufacturers product datasheets 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 Water Stucco Base coat, finish coat and optional Primer, level coat and reinforcing mesh as specified.

1.6 QUALITY ASSURANCE

- A. Qualifications:
1. Manufacturer: Shall have marketed stucco assemblies in United States for at least five 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 5 years experience in work similar to that required by this section.
- B. Functional Criteria:
1. General: Stucco application shall be to vertical substrates or to substrates sloped for positive drainage according to ASTM C926. Substrates sloped for drainage shall have additional protection from weather exposure that might be harmful to coating performance.
 2. Performance Requirements of Coatings applied to Expanded polystyrene features: Must comply with ASTM E 2568 or ICC Acceptance Criteria AC 219 for EIFS.
- C. Substrate Conditions:
1. Substrate materials and construction shall conform to the building code having jurisdiction.
 2. Substrates shall be sound, dry and free of dust, dirt, laitance, efflorescence and other harmful contaminants.
 3. Substrate Dimensional Tolerances: Flat with $\frac{1}{4}$ in (6.4 mm) within any 4 ft (1.22 m) radius.
 4. 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 El Rey Fiber-47 300 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- $\frac{1}{2}$ to 1.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver El Rey products in original packaging with manufacturer's identification.
- B. Storage: Store El Rey products 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 El Rey products to substrates whose temperature are below 40°F (4.4°C) or contain frost or ice.
- B. Inclement Weather: Do not apply El Rey products during inclement weather, unless appropriate protection is employed.
- C. Sunlight Exposure: Avoid, when possible, installation of the El Rey products in direct sunlight. Application of El Rey 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 from uneven and excessive evaporation during dry weather and strong blasts of dry air.
- E. Prior to installation, the wall shall be inspected for surface contamination, or other conditions that may adversely affect the performance of the El Rey Fiber-47 300 HE Stucco Assembly, and shall be free of residual moisture.

1.9 COORDINATION AND SCHEDULING:

- A. Coordination: Coordinate Stucco Assembly installation with other construction operations.

1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide El Rey Standard Limited Warranty.

EDITOR NOTE: SEE EL REY WARRANTY SCHEDULE FOR AVAILABLE WARRANTIES.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturer: Parex USA, Inc., 4125 E. La Palma Ave., Suite 250, Anaheim, CA 92807
- B. Components: Obtain components manufactured by Parex USA of El Rey Fiber-47 300 HE Stucco Assembly 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. El Rey Fiber-47 300 HE Stucco Assembly Materials:
 - 1. El Rey Fiber-47 Scratch & Brown Stucco Base
 - a. El Rey Fiber-47 Scratch & Brown Concentrate: A factory blended portland cement, fibers, hydrated lime and proprietary ingredients, cement scratch and brown coat mixed in the field with sand, conforming to ASTM C926
 - OR-
 - a. El Rey Fiber-47 Scratch & Brown Sanded: A factory blend of portland cement, lime, fibers, proprietary additives and sand, scratch and brown coat, mixed in the field with water, conforming to ASTM C926.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE OPTIONAL PAREX USA ADACRYL BONDER & ADMIX FOR ENHANCED PERFORMANCE

- B. Parex USA Adacryl Bonder & Admix: 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 and/or as an acrylic polymer bonding agent for between a cementitious base and stucco finish coat.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE EL REY FIBER-47 300 KRAKMASTER STUCCO ASSEMBLY FOR ENHANCED CRACK RESISTANCE PERFORMANCE.

- C. Leveling and Reinforcing Coat (Krakmaster Stucco Assembly):
 1. Stucco Level Coat™: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.
 2. Parex USA 355 Standard Mesh: Weight 4.5 oz/yd² (153 g/m²) reinforcing mesh.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE FINISH TYPE FOR DIFFERENT LEVELS OF ENHANCED WARRANTY.

- D. El Rey Premium Stucco finish: blend of portland cement, hydrated lime, aggregates and additives.

2.3 RELATED MATERIALS AND ACCESSORIES

- A. General: El Rey Fiber-47 300 Stucco Assembly and its related materials shall conform to ASTM C926, this specification and El Rey Product Data Sheets.

- B. Substrate Materials:

1. Gypsum Sheathing: Minimum ½ in (13 mm) thick, core-treated, weather-resistant, exterior gypsum sheathing complying with ASTM C79 or ASTM C1177.
2. Cement Board Sheathing, Minimum ½ in thick, conforming to ASTM C1186.
3. Fiberboard: Minimum ½ 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 (9.5 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 - ½ 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. The system is qualified for application to OSB (oriented strand board) sheathing only in areas shown in the Parex USA "Acceptable Substrates and Areas of Use" Technical Bulletin.
6. Concrete Masonry Construction: Painted (coated) and non-painted (uncoated). Shall be in conformance with the building code.
7. Other Approved by Parex USA in writing prior to the project

- C. Water-Resistive Barriers: (under Continuous Insulation):

1. For non-wood based sheathing shall be either:
 - a. One layer of No. 15 asphalt felt, ASTM D 226 for Type 1 felt
 - b. Other approved water-resistive barrier (ESR listed products).
2. For wood based sheathing shall be either:
 - a. One Layer of 60 minute Grade D paper or equal
 - b. Other approved water-resistive barrier (ESR listed products).
3. Open Framing:
 - a. 1 layer Grade D asphalt saturated Kraft building paper.
 - b. 1 layer asphalt-saturated felt complying with ASTM D 226 Type I.
 - c. Other recognized equivalent.

- D. Optional Drainage

1. Dupont Tyvek®, Stuccowrap® or DrainWrap™ or other sheet good Water resistive barrer, incorporating in itself a means of drainage, and maintaining a current ICC Evaluation Report Optional Drainage covered by Flat Insulation board.
2. WaterMaster Channeled Insulation Board.

E. Continuous Insulation:

1. Over open framing: Tongue and Groove Expanded (EPS), or Extruded (XPS), having a minimum density of 1.5 lb/ft³ (21 kg/m³), thickness of 1 in (25.4 mm) to 2 in (50.8 mm).
2. Over sheathing: Expanded (EPS), or Extruded (XPS), having a nominal density of 1 lb/ft³ (14 kg/m³). Maximum thickness of 2 in (50.8 mm).
3. Polyisocyanurate Foam plastic complying with ASTM C1289 as Type II board with a nominal density of 2 pcf (32 kg/m³), thickness of 1 in (25.4 mm) to 2 in (50.8 mm).

EDITOR NOTE: THE SELECTION OF AN APPROPRIATE TYPE OF MATERIAL FOR 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.

F. 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

EDITOR NOTE: SELECT LATH TYPE AND WEIGHT.

2. 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.
3. 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.

G. Expanded Polystyrene Features over El Rey Fiber-47 300 HE Stucco

1. Adhesive and Base Coat
 - a. El Rey Insul-Bond: Modified portland cement adhesive and basecoat for exterior foam shapes, such as pop-outs, plant-ons, cornices and reveals mixed with water.
 2. Insulation Board
 - a. Produced and labeled under a third party quality program as required by applicable building code and produced by a manufacturer approved by Parex USA.
 - b. Shall conform to ASTM C578, ASTM E2430 Type I, and the Parex USA specification for Molded Expanded Polystyrene Insulation board.
 3. Reinforcing Mesh
 - a. Parex USA Standard Mesh: Weight 4.5 oz/yd² (153 g/m²) reinforcing mesh.
- H. 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 El Rey Fiber-47 300 HE Stucco Assembly products.

REMINDER: EL REY FIBER-47 300 HE STUCCO ASSEMBLY MUST INSTALLED OVER A CODE COMPLYING WATER RESISTIVE BARRIER OR SOLID SURFACE OF MASONRY OR CONCRTE. 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 El Rey Fiber-47 300 HE Stucco Base installation as follows:
 - 1. Substrate shall be of a type approved by Parex USA. Plywood and OSB substrates shall be gapped $\frac{1}{8}$ 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 installation of the El Rey Fiber-47 300 HE Stucco Assembly. Do not proceed with the El Rey Fiber-47 300 HE Stucco Assembly work until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Water Resistive Barrier:
 - 1. The water-resistive barrier is placed over all substrates except concrete or unpainted masonry. Painted (coated) CMU is to use a bond breaker such as asphalt paper and lath if the paint or coating cannot be removed.
 - 2. Installed according to manufacturers instructions.
- B. Continuous Insulation:
 - 1. Insulation boards used over open framing are placed horizontally, with tongues faced upward, and are temporarily held in place with galvanized staples or roofing nails, on wood framing, and with self-tapping screws, on metal framing. Vertical butt joints must be staggered a minimum of one stud space from adjacent courses, and must occur directly over studs.
 - 2. Insulation Boards installed over a solid sheathing should be fastened to allow temporary placement until the lath is installed.
 - 3. The lath is applied tightly over the insulation board and fastened through the insulation board to wood studs or structural sheathing, Care must be taken to avoid overdriving fasteners.

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

- C. Wire Fabric Lath and Metal Lath: Install according to ASTM C1063 and Appendix and the Building Code.
- 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 El Rey Fiber-47 300 HE Stucco Assembly Product Data Sheets.
 - 1. Mix up to 1 gallon per 90 pound bag of El Rey Fiber-47 Scratch & Brown Concentrate and up to 1 quart per 80 pound bag of El Rey Fiber-47 Scratch & 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.

3.4 APPLICATION

- A. General: El Rey Fiber-47 300 HE Stucco Assembly and its related materials shall conform to ASTM C926, this specification and Parex Product Data Sheets.
- B. El Rey Fiber-47 Scratch & Brown Stucco Base:
 - 1. Scratch Coat:
 - a. Apply scratch coat to a minimum thickness of $\frac{3}{8}$ in (10 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 $\frac{3}{8}$ in (10 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
 - d. Moist cure brown coat with clean potable water for at least 48 hours, in accordance with ASTM C926 and the building codes.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE EL REY FIBER-47 300 KRAKMASTER HE STUCCO ASSEMBLY FOR ENHANCED CRACK RESISTANCE PERFORMANCE.

- C. Leveling and Reinforcing Coat (El Rey Fiber-47 300 Krakmaster HE Stucco Assembly):
 1. After Moist Curing, allow El Rey Fiber-47 300 Stucco Base to air dry a minimum of 24 hours before applying the leveling and reinforcing coat.
 2. Using a stainless steel trowel, apply the Parex USA Stucco Level Coat over the Stucco Base at a thickness of $\frac{1}{16} - \frac{3}{32}$ in. (1.6 – 2.4 mm).
 3. Fully embed the reinforcing mesh into the wet Stucco Level Coat including diagonal strips at corners of openings and trowel smooth. If 355 Standard Mesh is used, seams are overlapped $2\frac{1}{2}$ in (63 mm), and if the 358.10 Intermediate Mesh is used, seams are butted and covered by strips of Detail mesh 356.
 4. The acrylic primers and finishes can be applied as soon as the Stucco Level Coat has cured, typically within 24 hours.
- D. Parex USA Adacryl Bonder & Admix:
 1. Recommended as a surface bonding agent when cement finishes are to be applied over Stucco Level Coat.
 2. Apply according to product datasheets and application instructions using a low-pressure sprayer brush or roller (application in direct sunlight may cause the product to dry too quickly).
 3. Stucco finishes may be applied after Parex USA Adacryl Bonder & Admix becomes tacky up to 72 hours after application, but not while wet.
- E. Cement Finish Coat:
 1. Apply Stucco Finish according to product datasheet and application instructions.
 2. Protect El Rey Finish Coats from inclement weather until completely dry and cured.
- F. Curing: El Rey Stucco Base: Keep stucco moist for at least 48 hours (longer in dry weather) by lightly fogging walls. Start light fogging after initial set of 1–2 hours.

3.5 CLEAN-UP

- A. Removal: Remove and legally dispose of El Rey Fiber-47 300 HE Stucco component debris material from job site.

1.6 PROTECTION

- F. Provide protection of installed materials from water infiltration into or behind them.
- G. Provide protection of installed stucco from dust, dirt, precipitation, and freezing during installaProvide protection of installed finish from dust, dirt, precipitation, freezing, and continuous high humidity until fully dry.
- H. 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.



Fiber-47 300 HE Cement Finish Specifications

CSI SECTION 09 24 00



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