



ACF for Autoclaved Aerated Concrete (AAC) Specifications

CSI SECTION 09 97 23

SECTION 09 97 23 — Concrete and Autoclaved Aerated Concrete Coatings El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC)

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Installation of El Rey base coat, reinforcing mesh and finish installed over Autoclaved Aerated Concrete (AAC) approved by Parex USA

1.2 RELATED SECTIONS

- A. Section 03 00 00 - Concrete
- B. Section 07 90 00 - Joint Protection
- C. Section 08 50 00 - Windows

1.3 REFERENCES

- A. ASTM B117 - Test Method for Salt Spray (Fog) Testing.
- B. ASTM D2247 - Practice for Testing Water Resistance of Coatings in. 100 Percent Relative Humidity.
- C. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
- D. ASTM E331 - Test Method for Water Penetration by Uniform Static Air Pressure Difference.
- E. ASTM E695 - Method for Measuring Relative Resistance to Impact Loading.
- F. ASTM E2485 - Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings
- G. ASTM E2486 - Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
- H. ASTM G155 and G153 - Accelerated Weathering for Exposure of Nonmetallic Materials.

1.4 SYSTEM DESCRIPTION

- A. Description of El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC)
 - 1. An exterior coating system consisting of Base Coat with embedded Reinforcing Fabric Mesh, Primer (Optional), and Finish Coat.
- B. El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) Functional Criteria:
 - 1. General:
 - a. Inclined surfaces shall follow the guidelines listed below:
 - (1) Minimum slope: 6 in. (152 mm) of vertical rise in. 12 in. (305 mm) of horizontal run.
 - (2) For sloped surfaces, run of slope shall be a maximum of 12 in. (305 mm).
 - (3) Usage not meeting above criteria shall be approved by Parex USA prior to installation.
 - b. Flashing: Flashing shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC). Refer to Division 7 Flashing section for specified flashing materials.
 - c. Expansion joints: Continuous expansion joints shall be installed per contract documents

- d. Building code conformance: The construction shall be acceptable for use under the building code in force in the jurisdiction of the project.
2. Performance Requirements
 - a. Shall meet the testing requirements of the El Rey Product Performance Sheet.

EDITOR NOTE: COORDINATE BELOW IMPACT RESISTANCE CLASSIFICATION REQUIREMENTS ACCORDING TO ASTM E 2486 - STANDARD TEST METHOD FOR IMPACT RESISTANCE OF CLASS PB AND PI EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

3. Impact Resistance Classification: For EPS trim installed in addition to El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) shall be classified in accordance with EIMA classification and impact ranges as follows.
 - a. Standard Impact Resistance, 25-49 in.-lbs (2.8 – 5.6 J) Impact Range
 - b. Medium Impact Resistance, 50-89 in.-lbs (5.7–10.1 J) Impact Range
 - c. High Impact Resistance, 90-150 in.-lbs (10.2–17.0 J) Impact Range
 - d. Ultra High Impact Resistance, >150 in.-lbs (> 17.0 J) Impact Range

EDITOR NOTE: INDICATE JOINT WIDTH ON DRAWINGS FOR MOVEMENT AND EXPANSION AND CONTRACTION CONDITIONS. CONSULT WITH SEALANT MANUFACTURER FOR JOINT DESIGN RECOMMENDATIONS AND WITH EIFS MANUFACTURER FOR COORDINATION OF EIFS MATERIALS.

1.5 SUBMITTALS

- A. 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.
- B. Manufacturer's Warranty: Submit sample copies of Manufacturer's Warranty indicating Single Source Responsibility.

1.6 QUALITY ASSURANCE

- A. Qualifications:
 1. Manufacturer: Shall have marketed Exterior Insulation and Finish Systems Coatings in United States for at least ten years.
 - a. Shall have completed projects of same building size and type as this project.
 2. Applicator:
 - a. Shall have attended a Parex USA Educational Seminar for installation of system.
 - b. Shall possess a current certificate of education.
 - c. Shall be experienced and competent in installation of plaster-like materials.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) products in original packaging with manufacturer's identification.
- B. Storage: Store materials supplied by Parex USA in a cool, dry location, out of sunlight, protected from weather and other harmful environment, and at a temperature above 40°F (4°C) and below 110°F (43°C) in accordance with manufacturer's instructions.

1.8 PROJECT / SITE CONDITIONS

- A. Installation Ambient Air Temperature: Minimum of 40°F (4°C) and rising, and remain so for 24 hours thereafter.
- B. Substrate Temperature: Do not apply El Rey materials to substrates whose temperature are below 40°F (4.4°C) or contain frost or ice.
- C. Inclement Weather: Do not apply El Rey materials during inclement weather, unless appropriate protection is employed.

- D. Sunlight Exposure: Avoid, when possible, installation of the El Rey materials in. direct sunlight. Application of El Rey Finishes in. direct sunlight in. hot weather may adversely affect aesthetics.
- E. El Rey materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40°F (4.4°C) within 24 hours of application. Protect stucco from uneven and excessive evaporation during hot, dry weather.
- F. Prior to installation, the wall shall be inspected for surface contamination, or other defects that may adversely affect the performance of the El Rey materials and shall be free of residual moisture.

1.9 COORDINATION AND SCHEDULING:

- A. Coordination: Coordinate El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) installation with other construction operations.

1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) Limited Warranty. See El Rey's warranty schedule for available El Rey 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 of El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) 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. Base Coats:
 1. El Rey Insul-Bond L Base Coat & Adhesive: 100% acrylic polymer based, requiring the addition of portland cement.
 2. El Rey Insul-Bond P Dry Base Coat & Adhesive: Copolymer based, factory blend of cement and proprietary ingredients; requiring the addition of water only.

EDITOR NOTE: RETAIN BELOW STANDARD MESH FOR EL REY ARCHITECTURAL COATINGS AND FINISHES FOR MASONRY FOR STANDARD IMPACT RESISTANCE CLASSIFICATION.

- B. Parex USA Reinforcing Mesh (Impact resistance refers to installation of EPS trim):
 1. 355 Standard Mesh: Weight 4.5 oz. per sq. yd. (153 g/sq m); coated for protection against alkali. Standard reinforcement or for use with High Impact 358.14 Mesh, or Ultra High Impact 358.20 Mesh.
 2. 356 Short Detail Mesh: Reinforcing mesh used for backwrapping and details, and to embed in the Base Coat & Adhesive
 3. 352 Adhesive Detail Mesh: Reinforcing mesh used for complex details

EDITOR NOTE: RETAIN BELOW MESH REQUIREMENTS AFTER DETERMINATION OF IMPACT RESISTANCE CLASSIFICATION.

4. 358.10 Intermediate Impact Mesh: Weight 12 oz. per sq. yd. (407 g/sq m) Reinforcing mesh used to achieve EIMA intermediate impact strength.
5. 358.14 High Impact Mesh: Weight 15 oz. per sq. yd. (509 g/sq m) Reinforcing mesh to achieve EIMA high impact strength.
6. 358.20 Ultra High Impact: Weight 20 oz. per sq. yd. (678 g/sq m) Reinforcing mesh to achieve ultra-high impact strength.
7. 357 Corner Mesh: Reinforcing mesh used as corner reinforcement; required when using Ultra-High Impact 20 Mesh.

EDITOR NOTE: RETAIN BELOW AND SPECIFY LOCATIONS TO RECEIVE EIFS WITH HIGHER THAN STANDARD IMPACT RESISTANCE CLASSIFICATION.

Locations: _____; EIMA Impact Classification: _____

C. El Rey Primers:

1. Perma-Flex Colored Primer: 100% acrylic based coating to prepare surfaces for El Rey finishes.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE FINISH TYPE, TEXTURE, & COLOR

D. El Rey Finish:

1. El Rey Perma-Flex DPR Acrylic Finish: Factory blended, 100% acrylic polymer based finish, integrally colored.
 - a. Finish type, texture and color as selected by Project Designer.
- OR-
1. El Rey Perma-Flex Lastic Finish: Factory blended, 100% acrylic polymer based elastomeric textured finish, integrally colored.
 - a. Finish type, texture and color as selected by Project Designer.

E. Water: Cool, clean, potable water

F. Portland Cement: ASTM C150, Type I or Type I-II.

2.3 RELATED MATERIALS AND ACCESSORIES

A. Substrate Materials:

1. Autoclaved Aerated Concrete (AAC)

B. Flashing: Refer to Division 7 Flashing Section for flashing materials.

C. Sealant System:

1. Sealant for perimeter seals around window and door frames and other wall penetrations shall be low modulus, designed for minimum 50% elongation and minimum 25% compression, and as selected by Architect.
2. Sealants shall conform to ASTM C 920, Grade NS.
3. Sealant backer rod shall be closed-cell polyethylene foam.
4. Refer to Parex USA current bulletin for listing of sealants which have been tested and have been found to be compatible with El Rey EIFS.
5. Color shall be as selected by Architect.
6. Joint design, surface preparation, and sealant primer shall be based on sealant manufacturer's recommendations and project conditions.

EDITOR NOTE: PART 3 EXECUTION BELOW INVOLVES ONSITE WORK AND SHOULD INCLUDE PROVISIONS FOR INCORPORATING MATERIALS AND PRODUCTS INTO PROJECT. TYPICALLY, "CONDITIONS OF THE CONTRACT" ESTABLISH RESPONSIBILITY FOR "MEANS, METHODS, TECHNIQUES, AND SAFETY" REQUIREMENTS OF CONSTRUCTION WITH CONTRACTOR. SPECIFICATIONS SHOULD AVOID CONFLICTS WITH THIS CONTRACTUAL PRINCIPLE.

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 products.
- C. Substrate Examination: Examine prior to El Rey Base Coat installation as follows:
 - 1. The AAC shall be free of cracks
 - 2. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
 - 3. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
 - 4. Substrate shall have no irregularities greater than 1/4 in. (6.4 mm), and shall be sound and free of foreign substances, including paint, bond breakers, form oils, laitance, scaling and flaking.
 - 5. Holes in the AAC should be filled with the manufacturers specified product.
 - 6. Unsatisfactory conditions shall be corrected before the application of the coatings.
 - 7. Remove efflorescence using mechanical removal and/or a diluted acid solution followed by complete rinsing.
 - 8. Do not bridge expansion joints in the AAC masonry with El Rey materials.
- D. Advise Contractor of discrepancies preventing installation of the El Rey Architectural Coatings and Finishes. Do not proceed with the El Rey work until unsatisfactory conditions are corrected.

3.2 PREPARATION

- A. Protection: Protect surrounding material surfaces and areas during installation of system.
- B. Clean surfaces thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the Manufacturer for achieving the best result for the substrate under the project conditions.

3.3 MIXING

- A. Mix El Rey proprietary products in accordance with Manufacturer's instructions.

3.4 APPLICATION

- A. General: Installation shall conform to this specification and El Rey written instructions and drawing details.
- B. Base coat
 - 1. If leveling is required, apply any El Rey Insul-Bond Base Coat. El Rey Insul-Bond L Base Coat may be applied up to 3/8in. (9.5 mm) and Insul-Bond P up to 1/2 in. (13 mm) thick in a single pass when used as a leveler.
 - 2. Apply base coat and fully embed mesh in base coat; include diagonal mesh patches at corners of openings and reinforcing mesh patches at joints of track sections. Apply multiple layers of base coat and mesh where required for specified impact resistance classification.
- C. Bond supplemental EPS shapes as indicated on the drawings. Bond shapes to EPS or to dry reinforced base coat using any El Rey Insul-Bond Base Coat & Adhesive as an adhesive. Allow 24 hours to dry. Refer to El Rey Standard System Specification for materials and installation of Base Coat and Mesh over EPS shapes.
- D. Apply primer to base coat after drying. Primer may be omitted if it is not required by the Manufacturer's product data sheets for the specified finish coat or otherwise specified for the project.
- E. Finish Coat: Apply finish coat to match specified finish type, texture, and color. Do not apply finish coat to surfaces to receive sealant. Keep finish out of sealant joint gaps.

3.5 CLEAN-UP

- E. Removal: Remove and legally dispose of El Rey Architectural Coatings and Finishes for Autoclaved Aerated Concrete (AAC) component debris material from job site.
- F. Clean EIFS surfaces and work area of foreign materials resulting from EIFS operations.

3.6 PROTECTION

- E. Provide protection of installed materials from water infiltration into or behind them.
- F. Provide protection of installed stucco from dust, dirt, precipitation, and freezing during installation.
- G. Provide protection of installed finish from dust, dirt, precipitation, freezing and continuous high humidity until fully cured and 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 Architect/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.

PRODUCT PERFORMANCE SHEET

Test	Method	Results
Surface Burning Characteristics	ASTM E84	Flame Spread: 0 to 15 Smoke Developed: 0 to 15
Falling Ball Impact	ASTM D1037	92 to over 600 in.-lbs
Gardner Impact Test	ASTM D2794	25 to 200 in.-lbs
Impact Load	ASTM E695	30 lb Impact mass; no cracking of system
Abrasion Resistance	ASTM D968	500 liters: no deleterious effect*
Accelerated Weathering	ASTM G153	2000 hours; no deleterious effect*
	ASTM G154	2000 hours: no deleterious effect
Freeze-Thaw Resistance	ASTM E2485	60 cycles: no deterioration 10 cycles: pass
Fungus Resistance	MIL STD 810B	28 days: no growth
Mildew Resistance	ASTM D3273	35 days: no growth
Moisture Resistance	ASTM D2247	14 days: no deleterious effect*
Salt Fog Resistance	ASTM B117	500 hours: no deterioration
Water Penetration	ASTM E331	Pass
Wind-Driven Rain	F.S. TT-C-555B	24 hours: no penetration of water

*No deleterious effects: no cracking, checking, crazing, erosion, rusting, blistering.

REINFORCING MESH IMPACT RESISTANCE

Mesh Type	Classification	Impact Resistance Range (in.-lbs)
Standard Mesh	Standard	25-49
Intermediate Impact 10 Mesh	Intermediate	50-89
High Impact 15 Mesh (Plus Standard Mesh)	High	90-150
Ultra High Impact 20 Mesh/Standard Mesh	Ultra High	>150

Where several tests on different materials are summarized, a range of values are shown. This summary has been prepared to provide quick but partial information on how certain combinations of El Rey products perform during certain tests. It is not a complete description of the test procedures or of the results thereof. Parex USA will mail copies of original test reports at no charge on request. Please contact Parex USA if further information is required.

NOTES:



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