



LaHabra Fastwall 100 HE CF Stucco Assemblies Specification

CSI SECTION 09 24 00

CSI SECTION 09 24 00 – PORTLAND CEMENT PLASTER

LaHabra® Fastwall 100 HE (High Efficiency) Fiber Reinforced Stucco with Cement Finish
with Optional Krak-Shield

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Supply and Installation of LaHabra Fastwall 100™ HE (High Efficiency) Stucco Assemblies with Cement 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. LaHabra Fastwall 100 HE Stucco Assembly: A code complying water resistive barrier, Continuous Insulation, wire fabric or metal lath, LaHabra Fastwall Stucco Base (LaHabra Fastwall Concentrate or LaHabra Fastwall Sanded) and a cement finish coat.

-OR-

- A. LaHabra Fastwall 100 Krak-Shield™ HE Stucco Assembly: A code complying water resistive barrier, Continuous Insulation, wire fabric or metal lath, LaHabra Fastwall Stucco Base (LaHabra Fastwall Concentrate or LaHabra Fastwall Sanded), fiberglass reinforcing mesh embedded in Parex USA Stucco Level Coat, LaHabra Acrylic 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. LaHabra Fastwall 100 HE 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. Testing to meet International Code Council Acceptance Criteria AC11
 3. Performance Requirement

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

4. 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 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 ¼ in (6.4 mm) within any 4 ft (1220 mm) 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 Stucco Assembly 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 2-½ to 1.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver LaHabra products in original packaging with manufacturer's identification.
- B. Storage: Store LaHabra 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 LaHabra products to substrates whose temperature are below 40°F (4.4°C) or contain frost or ice.
- B. Inclement Weather: Do not apply LaHabra products during inclement weather, unless appropriate protection is employed.
- C. Sunlight Exposure: Avoid, when possible, installation of the LaHabra products in direct sunlight. Application of LaHabra 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 LaHabra Fastwall 100 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 LaHabra Standard Limited Armourwall Warranty.

EDITOR NOTE: SEE LAHABRA 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 LaHabra Fastwall 100 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. LaHabra Fastwall 100 HE Stucco Assembly Materials:

1. LaHabra Fastwall Stucco Base ($\frac{3}{8}$ in – $\frac{1}{2}$ in)
 - a. LaHabra Fastwall Stucco 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-

- a. LaHabra Fastwall Stucco Base 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 LAHABRA ADMIX FOR ENHANCED PERFORMANCE

- ### B. LaHabra Acrylic Bonder & Admix: 100% acrylic admix emulsion for portland cement based products, to enhance curing, adhesion, freeze-thaw resistance and workability 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 LAHABRA FASTWALL 100 KRAK-SHIELD HE STUCCO ASSEMBLY (C.) FOR ENHANCED CRACK RESISTANCE PERFORMANCE.

C. Leveling and Reinforcing Coat (Required for LaHabra Fastwall 100 Krak-Shield HE 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.

STUCCO LEVEL COAT SHALL NOT BE USED AS AN ADHESIVE OR BASE COAT FOR EXPANDED POLYSTYRENE INSULATION BOARD SHAPES OR FEATURES

D. LaHabra Finish:

1. Exterior Stucco Color Coat: blend of portland cement, hydrated lime, aggregates and additives available in 16/20 and 20/30 aggregates.
2. Santa Barbara Mission Finish: Smooth stucco finish coat

2.3 RELATED MATERIALS AND ACCESSORIES

- ### C. General: LaHabra Fastwall 100 HE Stucco Assembly and its related materials shall conform to the requirements of ICC-ES Evaluation Report No. 2564 and shall conform to this specification.

D. Substrate Materials:

3. Gypsum Sheathing: Minimum $\frac{1}{2}$ in (13 mm) thick, core-treated, weather-resistant, exterior gypsum sheathing complying with ASTM C79 or ASTM C1177.
4. Cement Board Sheathing, Minimum $\frac{1}{2}$ in thick, conforming to ASTM C1186.
5. Fiberboard: Minimum $\frac{1}{2}$ in (13 mm) thick fiberboard complying with ANSI/AHA A194.1 as a regular density sheathing.
6. Plywood: Minimum $\frac{5}{16}$ in (8 mm) thick exterior grade or Exposure I plywood for studs spaced 16 in (406 mm) o.c. and $\frac{3}{8}$ 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
7. Oriented Strand Board (OSB): $\frac{7}{16}$ - $\frac{1}{2}$ 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. 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.

8. Concrete Masonry Construction: Painted (coated) and non-painted (uncoated). Shall be in conformance with the building code.
 9. Other Approved by Parex USA in writing prior to the project
- E. Water-Resistive Barriers:
3. For solid sheathing with continuous insulation installed over the water-resistive barrier:
 - c. Dupont Tyvek®, Stuccowrap® or DrainWrap™
 - d. Other sheet good Water resistive barrier, incorporating in itself a means of drainage, and maintaining a current ICC Evaluation Report
 4. Open Framing:
 - c. 1 layer Grade D asphalt saturated Kraft building paper.
 - d. 1 layer asphalt-saturated felt complying with ASTM D 226 Type I.
 - e. Other recognized equivalent.
- F. Continuous Insulation:
3. 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 1.5 in (38.1 mm).
 4. Over sheathing: Expanded (EPS), or Extruded (XPS), having a nominal density of 1 lb/ft³ (14 kg/m³). Maximum thickness of 1.5 in (38.1 mm).
 5. 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 1.5 in (38.1 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.

- G. 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.

H. Expanded Polystyrene Features over LaHabra Fastwall 100 HE Stucco

1. Adhesive and Base Coat
 - a. LaHabra Polybond: 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.
- I. 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 LaHabra Fastwall 100 HE Stucco Assembly products.

REMINDER: LAHABRA FASTWALL 100 HE STUCCO ASSEMBLY MUST BE INSTALLED OVER A CODE-COMPLYING WATER-RESISTIVE BARRIER OR SOLID SURFACE OF MASONRY OR CONCRETE. 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 LaHabra Fastwall 100 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 LaHabra Fastwall 100 HE Stucco Assembly. Do not proceed with the LaHabra Fastwall 100 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.
 - 2. Installed according to manufacturer's instructions.
- B. Continuous Insulation:
 - 1. Install according to ICC Evaluation Report ESR 2564.
 - 2. Insulation on open framing is 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.
 - 3. Insulation boards installed over a solid sheathing should be fastened to allow temporary placement until the lath is installed.
 - 4. 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 ICC Evaluation Report ESR 2564, 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 LaHabra Fastwall 100 HE Stucco Assembly Product Data Sheets.
- B. Admix - LaHabra Acrylic Bonding & Admix. Mix up to 1 gal (3.8 L) per 1 bag of LaHabra Fastwall Stucco Concentrate. Mix up to 1 qt (1 L) per bag of LaHabra Fastwall 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. A. General: LaHabra Fastwall 100 HE Stucco Assembly and its related materials shall conform to the requirements of ICC-ES Evaluation Report No. 2564 and shall conform to this specification.
- B. Bonding Agent - LaHabra Acrylic Bonder & Admix:
 - 1. Apply at the approximate rate of 250 ft² per gallon using a low-pressure sprayer, brush or roller. (application in direct sunlight may cause the product to dry too quickly)
 - 2. Cement products should be applied after LaHabra Acrylic Bonder & Admix becomes tacky and up to 72 hours after application, but not while wet.
- C. LaHabra Fastwall 100 HE Stucco Base:
 - 1. LaHabra Fastwall 100 Stucco base mixtures shall be applied in one or two coats to a minimum thickness of $\frac{3}{8}$ in (9.5 mm) by hand troweling or machine spraying the mixture to the wire lath in accordance with Product Data Sheets. The maximum thickness applied in one pass is $\frac{1}{2}$ in (17 mm).
 - 2. Rod surface to true plane and float to densify.
 - 3. Trowel to smooth and uniform surface to receive acrylic polymer finish coat.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE LAHABRA FASTWALL 100 KRAK-SHEILD HE STUCCO ASSEMBLY FOR ENHANCED CRACK RESISTANCE PERFORMANCE.

- D. Leveling and Reinforcing Coat (LaHabra Fastwall 100 Krak-Shield HE Stucco Assembly):
 - 1. After Moist Curing, allow LaHabra Fastwall 100 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 Armourwall 100 HE 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. Bonding Agent is recommended over Stucco level Coat before the application of the Cement Finish.
- E. Expanded Polystyrene Featured over over Armourwall 100 Stucco Base:
 - 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 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.
- F. LaHabra Acrylic Bonder & Admix:
 - 1. Recommended as a surface bonding agent when 20/30 or 16/20 cement finishes are to be applied over Stucco Level Coat.
 - 2. Recommended as an admix when Santa Barbara Mission Finish or other Smooth cement finishes are to be applied. Mix 1qt. of Acrylic Bonder & Admix for each 90 lb. bag of Santa Barbara Mission Finish, add the Bonder & Admix at end of the mixing process. Turn blades off after mixing to avoid excessive air entrainment.
 - 3. 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).
 - 4. Stucco finishes may be applied after LaHabra Acrylic Bonder & Admix becomes tacky up to 72 hours after application, but not while wet.
- G. Cement Finish Coat:
 - 7. Apply Stucco Finish according to product datasheet and application instructions.
 - 8. Protect LaHabra Finish Coats from inclement weather until completely dry and cured.
- H. Curing:
 - 1. LaHabra Fastwall 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.



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1.5 CLEAN-UP

- E. Removal: Remove and legally dispose of LaHabra Fastwall 100 HE Stucco component debris material from job site.

1.6 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 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.

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