

## **CSI SECTION 07 24 00 – Insulation & Finish System (EIFS) - Class PB**

### **07 25 19- Water-Drainage Exterior Insulation and Finish System**

#### **SYSTEM OVERVIEW**

The LaHabra Insul-Flex WaterMaster LCR™ (Light Commercial/Residential) System is a Class PB EIFS distinguished by installation with drainage.

It features flat expanded polystyrene (EPS) insulation board mechanically fastened over Dupont StuccoWrap.

The StuccoWrap provides a water-resistive barrier while its grooved pattern provides drainage.

The LaHabra Insul-Flex WaterMaster LCR™ is qualified for combustible construction only. Its use is generally limited to walls with design-negative windload not over 29 pounds per square foot. Contact Parex USA Technical Department for higher loads.

- Coordination and sequencing:

- Flashing membrane must be installed in rough openings before windows, doors, etc.
- Flashings that are counter-flashed by EIFS must be installed before the EIFS. Such flashings include “kick-outs,” deck flashings, etc.

- All penetrations and terminations of the system must be made weather -tight, typically by sealants and/or flashings.

- Weeps of vented track and flashings must not be blocked.

#### **PART 1 - GENERAL**

##### **1.1 SECTION INCLUDES**

- A. Manufacturer’s requirements for the proper design, use, and installation of an Exterior Insulation and Finish System.

##### **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 62 00 - Sheet Metal Flashing and Trim
- E. Section 07 90 00 - Joint Protection
- F. Section 08 50 00 - Windows
- G. Section 09 21 16 - Gypsum Board Assemblies

##### **1.3 REFERENCES**

- A. ASTM B117 Test Method for Salt Spray (Fog) Testing
- B. ASTM C203 Standard Test Method for Breaking Load and Flexural Properties of Block-Type Thermal Insulation
- C. ASTM C1135 Test Method for Determining Tensile Adhesion Properties of Structural Sealants
- D. ASTM D968 Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
- E. ASTM D1037 Standard Test Methods for Evaluating Properties of Wood-Base Fiber and Particle Panel Materials

- F. ASTM D2247 Practice for Testing Water Resistance of Coatings in 100 Percent Relative Humidity
- G. ASTM D2294 Standard Test Method for Creep Properties of Adhesives in Shear by Tension Loading (Metal-to-Metal).
- H. ASTM D2794 Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- I. ASTM D3273 Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
- J. ASTM E84 Test Method for Surface Burning Characteristics of Building Materials.
- K. ASTM E108 Standard Test Methods for Fire Tests of Roof Coverings
- L. ASTM E119 Standard Test Method for Fire Tests of Building Construction and Materials.
- M. ASTM E330 Test Method for Structural Performance by Uniform Static Air Pressure Difference.
- N. ASTM E331 Test Method for Water Penetration by Uniform Static Air Pressure Difference.
- O. ASTM E695 Method for Measuring Relative Resistance to Impact Loading.
- P. ASTM E2134 Standard Test Method for Evaluating the Tensile-Adhesion Performance of an Exterior Insulation and Finish System (EIFS)
- Q. ASTM E2273 Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies
- R. ASTM E2430 Standard Specification For Expanded Polystyrene ("EPS") Thermal Insulation Boards For Use In Exterior Insulation and Finish Systems ("EIFS")
- S. ASTM E2485 Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings
- T. ASTM E2486 Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
- U. ASTM E2568 Standard Specification for PB Exterior Insulation and Finish Systems
- V. ASTM G155/  
G153 Accelerated Weathering for Exposure of Nonmetallic Materials
- W. Fed. Spec. Coating, Textured (For Interior and Exterior Masonry Surfaces)  
TT-C-555B
- X. MIL STD 810B Military Standard, Environmental Test Methods

#### **1.4 ASSEMBLY DESCRIPTION**

- A. Insul-Flex WaterMaster LCR: An Exterior Insulation and Finish System (EIFS) consisting of, Expanded Polystyrene Insulation (EPS) Board, Mechanical Fasteners, Base Coat with embedded Reinforcing Fabric Mesh, Primer (Optional), and Finish Coat. This system is installed over DuPont™ Stucco Wrap or Drainwrap and Parex USA Flashing Membrane .
- B. Functional Criteria:
  - 1. General:
    - a. Insulation Board: At system termination, completely encapsulate insulation board edges by mesh reinforced base coat, substrate or drainage track (limited to terminations at foundation). The use of and maximum thickness of insulation board shall be in accordance with applicable building codes and EIFS manufacturer's requirements.
    - b. Flashing: Flashing shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the cladding. Refer to Division 07 Flashing Section for specified flashing materials.
    - c. The configuration of the water resistive barrier, drainage plane and flashing and LaHabra materials, must allow for the egress of incidental moisture.

- d. 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 in writing prior to installation.
  - e. The building interior shall be separated from the insulation board by 1/2 in (12.7 mm) of gypsum board or equivalent 15 minute thermal barrier.
2. Performance Requirements
- a. System to meet the performance and testing requirements of the International Code Council Acceptance Criteria AC 219
  - b. Shall meet the testing requirements of the Product Performance Sheet.
3. Substrate Systems:
- a. Shall be engineered to withstand applicable design loads including required safety factor.
  - b. Maximum deflection of substrate system under positive or negative design loads shall not exceed L/240 of span.
  - c. Substrate dimensional tolerance: Flat within 1/4 in (6.4 mm) in any 4 ft (122 cm) radius.
  - d. Surface irregularities: Sheathing not over 1/8 in (3 mm); masonry not over 3/16 in (4.8 mm).

**EDITOR NOTE: COORDINATE BELOW IMPACT RESISTANCE CLASSIFICATION REQUIREMENTS ACCORDING TO ASTM E2486 - STANDARD TEST METHOD FOR IMPACT RESISTANCE OF CLASS PB AND PI EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)**

4. Impact Resistance Classification:
- 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
5. Expansion Joints: Continuous expansion joints shall be installed at the following locations in accordance with manufacturer's recommendations:
- a. At building expansion joints.
  - b. At substrate expansion joints.
  - c. At floor lines in wood frame construction.
  - d. Where EIFS panels abut one another.
  - e. Where EIFS abuts other materials.
  - f. Where significant structural movement occurs, such as at
    - (1) Changes in roof line.
    - (2) Changes in building shape and/or structural system.
  - g. Where substrate changes

**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.**

- h. Substrate movement and expansion and contraction of EIFS 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 follows:
  - (1) 1/2 in (12.7 mm) where EIFS abuts other materials.

(2) 3/4 in (19 mm) when EIFS abuts the EIFS.

(3) Larger width where indicated on drawings.

6. Manufacturer's Detail:

a. EIFS latest published information shall be followed for standard detail treatments.

b. Non-standard detail treatments shall be as recommended by manufacturer, approved by Project Designer and be part of the Contract Documents.

7. Building Code Conformance: EIFS shall be acceptable for use on this project under building code having jurisdiction.

## 1.5 SUBMITTALS

A. General: Submit Samples, Evaluation Reports, warranties and Certificates in accordance with Division 01 General Requirements Submittal Section.

## 1.6 QUALITY ASSURANCE

A. Products manufactured under ISO 9001:2000 Quality System.

B. Qualifications:

1. All EIFS assembly materials must be manufactured or sold by a single-source manufacturer and must be purchased direct from the manufacturer or its authorized distributor.

2. Applicator:

a. Must have attended manufacturer's Educational Seminar.

b. Must possess a current manufacturer's certificate of education.

c. Must be experienced and competent in installation of plaster-like materials.

C. Regulatory Requirements:

1. Insulation Board: Shall be produced and labeled under a third party quality program as required by applicable building code.

## 1.7 DELIVERY, STORAGE, AND HANDLING

A. Delivery: Deliver materials in original packaging with manufacturer's identification.

B. Storage: Store materials 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 materials to substrates whose temperature are below 40°F (4°C) or contain frost or ice.

C. Inclement Weather: Do not apply materials during inclement weather unless appropriate protection is employed.

D. Sunlight Exposure: Avoid, when possible, installation of the materials in direct sunlight. Application of Acrylic Finishes in direct sunlight in hot weather may adversely affect aesthetics.

E. Materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40°F (4°C) within 24 hours of application. Protect materials 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 materials and shall be free of residual moisture.

## 1.9 COORDINATION AND SCHEDULING:

A. Coordination: Coordinate water-resistive membrane & air barrier coating materials installation with

other construction operations.

## 1.10 WARRANTY

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

## 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 from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from the EIFS manufacturer for this project.

### 2.2 MATERIALS

**EDITOR NOTE: CHOOSE ADHESIVE APPROPRIATE FOR SUBSTRATE.**

- A. Secondary Water-Resistive Barrier
  - [1. DuPont® StuccoWrap or DrainWrap®: Vapor-permeable air barrier and secondary weather-resistive barrier that provides drainage plane.
  - [2. Parex USA 365 Flashing Membrane: Self sealing, Polyester faced, rubberized asphalt membrane, 30 mils (0.76 mm) thick.
- B. Insulation Board: In compliance with manufacturer's requirements for Insul-Flex System EIFS.
  - 1. Produced and labeled under a third party quality program as required by applicable building code; and produced by a manufacturer approved by Parex USA.
  - 2. Shall conform to ASTM C578 and ASTM E2430, Type I and the Parex USA specification for Molded Expanded Polystyrene Insulation board.
  - 3. Maximum size shall be 2 ft x 4 ft (610 mm x 1219 mm).
  - 4. Thickness: 1.5 in, minimum (19 mm) after rasping.
- C. Base Coats:
  - [1. Insul-Bond Basecoat & Adhesive: 100% acrylic polymer base, requiring the addition of Portland cement.
  - [2. Insul-Bond Dry Basecoat & Adhesive: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.

**EDITOR NOTE: RETAIN BELOW STANDARD MESH FOR INSUL-FLEX SYSTEM FOR STANDARD IMPACT RESISTANCE CLASSIFICATION.**

- D. Reinforcing Mesh:
  - [1. 355 Standard Mesh: Weight 4.5 oz. per sq. yd. (153 g/sq m); coated for protection against alkali. Standard reinforcement of LaHabra EIFS, 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.
  - [3. 352 Self 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 10 Mesh: Weight 12 oz per sq. yd. (407 g/sq m) Reinforcing mesh used with a Insul-Flex System, to achieve ASTM E2486 intermediate impact strength.
- [5. 358.14 High Impact 14 Mesh: Weight 15 oz. per sq. yd. (509 g/sq m) Reinforcing mesh used with a Insul-Flex System; to achieve ASTM E2486 high impact strength.
- [6. 358.20 Ultra High Impact 20 Mesh: Weight 20 oz. per sq. yd. (678 g/sq m) Reinforcing mesh used with a Insul-Flex System; 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: \_\_\_\_\_; ASTM E2486 Impact Classification: \_\_\_\_\_

E. Primer:

- [1. Parex USA Primer: 100% acrylic based coating to prepare surfaces for acrylic or elastomeric finishes.
- [2. 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

F. Finish:

- [1. LaHabra Perma-Finish: Factory blended, 100% acrylic polymer based finish, integrally colored. Finish type, texture and color as selected by Project Designer
- [2. LaHabra Perma-Elastic Finish: Factory blended, 100% acrylic polymer based elastomeric finish, integrally colored. Finish type, texture and 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.

- [3. Parex USA Variance [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.

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

- [4. 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.

G. Water: Clean, cool, potable water

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

## 2.3 RELATED MATERIALS AND ACCESSORIES

A. Substrate Materials:

- [1. Glass mat gypsum sheathing conforming to ASTM C1177.
- [2. Cement Fiber Sheathing conforming to ASTM C1186
- [3. Gypsum Sheathing: Minimum 1/2 in (13 mm) thick, core-treated, weather-resistant, exterior gypsum sheathing complying with ASTM C79.
- [4. Plywood: Minimum 7/16 in (8 mm) thick exterior grade or PS 1, Exposure 1, minimum 7/16 in thick, C veneer facing out, panels gapped 1/8 in at all edges.
- [5. Oriented Strand Board (OSB): 7/16 in - 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.
- [6. Other approved by manufacturer writing prior to the project.

- B. Flashing: Refer to Division 07 Flashing Section for flashing materials.
- C. Mechanical fasteners and washers:
  - [1. Wind-lock Wind Devil 2 fasteners, non-thermal bridging polypropylene plastic plates and corrosion-resistant screws.
  - [2. Demand Products PB Washer, 2" diameter, polypropylene plastic plates with appropriate fasteners for framing.
  - [3. ITW Buildex GridMate PB, 2" diameter, polypropylene plastic plates with appropriate fasteners for framing.
  - [4. Rodenhouse Plasti-Grip or Grip-Lock Washer, 2" -3" diameter, polypropylene plastic plates with appropriate fasteners for framing.
- D. Sealant System:
  - [1. Sealant for expansion joints between panelized EIFS sections shall be ultra-low modulus designed for minimum 100% elongation and minimum 50% compression and as selected by Project Designer.
  - [2. 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 Project Designer.
  - [3. Sealants shall conform to ASTM C 920, Grade NS.
  - [4. Expansion joints between sections of EIFS shall have a minimum width of 3/4 in (19 mm).
  - [5. Perimeter seal joints shall be a minimum width of 1/2 in (12.7 mm).
  - [6. Sealant backer rod shall be closed-cell polyethylene foam.
  - [7. Apply sealant to tracks or base coat of EIFS.
  - [8. Refer to EIFS manufacturer's current bulletin for listing of sealants which have been tested and have been found to be compatible with EIFS materials.
  - [9. Color shall be as selected by Project Designer.
  - [10. 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.
- C. Substrate Examination: Examine prior to installation of EIFS assembly materials as follows:
  - 1. Substrate shall be of a type approved by manufacturer. 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.
  - 5. Maximum deflection of the substrate shall be limited to L/240.
- D. Sealants and Backer Rod: To be installed, where required, in accordance with the sealant manufacturer's specifications and published literature, and using the sealant manufacturer's

recommended primers.

- E. Advise Contractor of discrepancies preventing proper installation of the EIFS materials. Do not proceed with the 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 materials in accordance with manufacturer's instructions.

### **3.4 APPLICATION**

- A. General: Installation shall conform to this specification and manufacturer's written instructions.
- B. Drainage Accessories and Water Resistive Barrier
  1. Install drainage tracks (limited to terminations at foundations), back-wrap mesh, or edge-wrap mesh at system terminations.
  2. Flash all rough openings with Parex USA Weatherseal on water-resistive barrier and embedded Parex USA 396 Sheathing Tape or Peel and Stick Flashing Membrane.
  3. Install DuPont StuccoWrap® or DuPont DrainWrap® and WaterMaster™ Flashing Membrane or DuPont Tyvek™ FlexWrap® flashing membrane, making all laps weatherboard fashion to provide continuity of watershedding.
- C. Insulation Board
  1. Install Wind-lock fasteners to secure insulation board to the wall in accordance with Wind-lock Corporation instructions. For exterior grade gypsum sheathing and glass mat gypsum sheathing minimum screw penetration of framing members shall be 3/4 in (19 mm) into wood and three full threads through steel. Minimum eight (8) fasteners per 2' x 4' (610 mm x 1219 mm) piece of insulation board.
  2. Install insulation board without gaps in a running bond pattern and interlocked at corners.
  3. Rasp irregularities off insulation board.
- D. Apply base coat and fully embed mesh in basecoat; included diagonal mesh patches at corners of openings and reinforcing mesh patches at joints of track section. Apply multiple layers of base coat and mesh where required for specified impact resistance classification.
- E. 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.
- F. 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**

- A. Removal: Remove and legally dispose of EIFS materials from job site.
- B. Clean surfaces and work area of foreign materials resulting from material installation.

### **3.6 PROTECTION**

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed materials from dust, dirt, precipitation, and freezing during installation, and continuous high humidity until fully cured and dry.
- C. 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 Project Designer/Owner.

END OF SECTION

Rev. May 2013

*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).*

**Product Performance Sheet | Page 1**  
*Insul-Flex WaterMaster LCR EIFS Assembly – Class PB*

EIFS Strength	Method	ICC or ASTM Criteria	Results
Flexural Strength	ASTM C203	No Requirement	60.6 psi (418 kPa)
Falling Ball Impact	ASTM D1037	No Requirement	92 to over 600 in-lbs
Creep Resistance of Adhesive	ASTM D2294	No Requirement	28 days 208 psf shear stress; no creep
Gardner Impact Test	ASTM D2794	No Requirement	25 to 200 in-lbs (mesh weight)
Transverse Wind Load	ASTM E330	Withstand positive and negative wind loads as specified	See Current ESR 2562
Impact Load	ASTM E695	No Current Requirement	30 lb. Impact mass; no cracking of system
Tensile Bond Strength	ASTM E2134	Minimum 15 psi (103kPa)	26 psi (179 kPa) to insulation board

EIFS Environmental Durability	Method	ICC or ASTM Criteria	Results
Abrasion Resistance	ASTM D 968	No cracking or loss of film at 528 quarts (500 L) of sand	500 liters: no deleterious effect
Accelerated Weathering	ASTM G153 ASTM G154	No deleterious effects* at 2000 hours when viewed under 5x magnification	2000 hours: no deleterious effect 2000 hours: no deleterious effect
Drainage Efficiency	ASTM E2273		Pass
Freeze/Thaw Resistance	ASTM E 2485	No deleterious effects* at 10 cycles when viewed under 5x magnification	60 cycles: no deterioration 10 cycles: pass
Fungus Resistance	MIL STD 810B		28 days: no growth
Mildew Resistance	ASTM D 3273	No growth supported during 28 day exposure period	35 days: no growth
Moisture Resistance	ASTM D2247	No deleterious effects at 14 day exposure	Pass
Salt Fog Resistance	ASTM B117	No deleterious effects* at 300 hours	500 hours: no deterioration
Water Penetration	ASTM E 331	No water penetration beyond the plane of the base coat/EPS board interface after 15 minutes at 6.24 psf (299 Pa)	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.*

## Product Performance Sheet | Page 2

*Insul-Flex WaterMaster LCR EIFS Assembly – Class PB*

<b>REINFORCING MESH IMPACT RESISTANCE</b>	<b>Classification</b>	<b>Impact Range (in-lbs)</b>
355 Standard Mesh	Standard	25-49
358.10 Intermediate Impact 10 Mesh	Intermediate	50-89
358.14 High Impact 15 Mesh (Plus Standard Mesh)	High	90-150
358.20 Ultra High Impact 20 Mesh /Standard Mesh	Ultra High	>150

*Where several tests on different materials are summarized, a range of values is shown. This summary has been prepared to provide quick but partial information on how certain combinations of LaHabra products perform during certain tests. It is not a complete description of the test procedures or of the results thereof. Copies of original test reports are available at no charge upon request. Please contact Parex USA's Architectural Sales (866-516-0061) or Technical Support Department (800-226-2424) if further information is required.*