



# Teifs Permadrain Wall System Specification

## CSI SECTION 07 24 00

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

07 24 19 Water-Drainage Exterior Insulation and Finish System

#### SYSTEM OVERVIEW

*The TeifsPermadrain™ 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 TeifsPermadrain™ 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.*

- *The system does not contribute structural strength to the wall. It depends on the substrate wall for support and attachment.*
- *Substrate construction must resist all design loads. Sheathing attachment to framing must resist design negative windloads because it transfers those loads to the framing. Appropriate safety factors must be applied.*
- *All penetrations and non-draining 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.*
- *The EPS in EIFS has a maximum service temperature of 165°F (74°C). Dark colors will increase the surface temperature of the EIFS wall.*

#### PART 1 - GENERAL

##### 1.1 SECTION INCLUDES

- A. Installation of TeifsPermadrain 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 C1135 - Test Method for Determining Tensile Adhesion Properties of Structural Sealants.
- C. ASTM D968 - Standard Test Methods for Abrasion Resistance of Organic Coatings by Falling Abrasive
- D. ASTM D2247 - Practice for Testing Water Resistance of Coatings in 100 Percent Relative Humidity.
- E. ASTM D2794 - Standard Test Method for Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
- F. ASTM D3273 - Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber
- G. ASTM E84 - Test Method for Surface Burning Characteristics of Building Materials.
- H. ASTM E119 - Standard Test Method for Fire Tests of Building Construction and Materials.
- I. ASTM E330 - Test Method for Structural Performance by Uniform Static Air Pressure Difference.
- J. ASTM E331 - Test Method for Water Penetration by Uniform Static Air Pressure Difference.
- K. ASTM E2134 - Standard Test Method for Evaluating the Tensile-Adhesion Performance of an Exterior Insulation and Finish System (EIFS)
- L. ASTM E2273 - Standard Test Method for Determining the Drainage Efficiency of Exterior Insulation and Finish Systems (EIFS) Clad Wall Assemblies<sup>1</sup>
- M. ASTM E2430 - Standard Specification For Expanded Polystyrene ("EPS") Thermal Insulation Boards For Use In Exterior Insulation and Finish Systems ("EIFS")
- N. ASTM E2485 - Standard Test Method for Freeze/Thaw Resistance of Exterior Insulation and Finish Systems (EIFS) and Water Resistive Barrier Coatings
- O. ASTM E2486 - Standard Test Method for Impact Resistance of Class PB and PI Exterior Insulation and Finish Systems (EIFS)
- P. ASTM G155 and G153 - Accelerated Weathering for Exposure of Nonmetallic Materials.
- Q. Federal Specification TT-C-555B – Coating, Textured (For Interior and Exterior Masonry Surfaces)
- R. MIL STD 810B - Military Standard, Environmental Test Methods

### 1.4 SYSTEM DESCRIPTION

- A. Description of TeifsPermadrain:
  - 1. 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 Teifs Flashing Membrane.
- B. Teifs EIFS 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 Parex USA requirements.
    - b. Flashing: Flashing shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the EIFS. Refer to Division 07 Flashing Section for specified flashing materials.
    - c. The configuration of the water resistive barrier, drainage plane, flashing with Teifs 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 by Parex USA prior to installation.

- e. The building interior shall be separated from the insulation board by ½ 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 235.
  - b. Shall meet the testing requirements of the Teifs 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 1/240 of span except as otherwise approved in writing by Parex USA prior to installation.
  - 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 E 2486 - STANDARD TEST METHOD FOR IMPACT RESISTANCE OF CLASS PB AND PI EXTERIOR INSULATION AND FINISH SYSTEMS (EIFS)

- 4. Impact Resistance Classification: TeifsPermadrain shall be classified in accordance with ASTM E2430 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
- 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 Teifs EIFS panels abut one another.
  - e. Where Teifs 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. (For exceptions to joints at substrate changes, contact the Parex USA Technical Department)

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 Teifs 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) ½ in (12.7 mm) where EIFS abuts other materials.
  - (2) ¾ in (19 mm) when EIFS abuts the EIFS.
  - (3) Larger width where indicated on drawings.

6. Manufacturer's Detail:
  - a. Teifs EIFS latest published information shall be followed for standard detail treatments.
  - b. Non-standard detail treatments shall be as recommended by Parex USA, approved by Project Designer and be part of the Contract Documents.
7. Building Code Conformance: Teifs EIFS shall be acceptable for use on this project under building code having jurisdiction.

## **1.5 SUBMITTALS**

- A. General: Submit Samples, Evaluation Reports and Certificates in accordance with Division 01 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.

## **1.6 QUALITY ASSURANCE**

- A. Qualifications:
  1. Manufacturer: Shall have marketed Exterior Insulation and Finish Systems 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.
- B. 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 TeifsPermadrain products in original packaging with manufacturer's identification.
- B. Storage: Store EIFS 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. Store insulation board flat.

## **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 Teifs materials to substrates whose temperature are below 40° F (4 °C) or contain frost or ice.
- C. Inclement Weather: Do not apply Teifs materials during inclement weather, unless appropriate protection is employed.
- D. Sunlight Exposure: Avoid, when possible, installation of the Teifs materials in direct sunlight. Application of Teifs Finishes in direct sunlight in hot weather may adversely affect aesthetics.
- E. Teifs 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 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 Teifs materials and shall be free of residual moisture.

## **1.9 COORDINATION AND SCHEDULING:**

- A. Coordination: Coordinate TeifsPermadrain installation with other construction operations.

## 1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide TeifsPermadrain Limited Warranty. See Teifs's warranty schedule for available Teifs EIFS 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 TeifsPermadrain 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. Secondary Water-Resistive Barrier:
  1. DuPont® StuccoWrap or DrainWrap®: Vapor-permeable air barrier and secondary weather-resistive barrier that provides drainage plane.
  2. Teifs 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 TeifsPermadrain 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, ASTM E 2430, 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 (38
  5. mm)
- C. Base Coats:
  1. TeifsBase: 100% acrylic polymer based, requiring the addition of Portland cement; used as an adhesive to laminate EPS Insulation Board to the TeifsWeatherseal roll on water-resistive barrier.
  2. TeifsBase DB: Copolymer based, factory blend of cement and proprietary ingredients; requiring the addition of water only, used as an adhesive to laminate EPS Insulation Board to the TeifsWeatherseal roll on water-resistive barrier.

EDITOR NOTE: RETAIN BELOW STANDARD MESH FOR TEIFSWEATHERTIGHT VNTSYSTEM FOR STANDARD IMPACT RESISTANCE CLASSIFICATION.

- D. Teifs Reinforcing Mesh:
  1. TeifsMesh: Weight 4.8 oz/ yd<sup>2</sup> (162 g/m<sup>2</sup>); coated for protection against alkali. Standard reinforcement of Teifs EIFS, or for use with High Impact TeifsMat 15, or Ultra High Impact TeifsMat 20.
  2. Detail Mesh: Reinforcing mesh used for backwrapping and details, and to embed in the Teifs Base Coat & Adhesive.
  3. Self Adhesive Detail Mesh: Reinforcing mesh used for complex details

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

4. TeifsMesh 10: Weight 10 oz /yd<sup>2</sup> (339 g/m<sup>2</sup>) Reinforcing mesh used with TeifsWeathertight VNT System, to achieve ASTM E2486 intermediate impact strength.
5. TeifsMat 15: Weight 15 oz/yd<sup>2</sup> (509 g/m<sup>2</sup>) Reinforcing mesh used with TeifsWeathertight VNT System; to achieve ASTM E2486 high impact strength.
6. TeifsMat 20: Weight 20 oz/yd<sup>2</sup> (678 g/m<sup>2</sup>) Reinforcing mesh used with TeifsWeathertight VNT System; to achieve ultra-high impact strength.
7. 357 Corner Mesh: Reinforcing mesh used as corner reinforcement; required with 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. Teifs Primers:

1. TeifsPrime: 100% acrylic based coating to prepare surfaces for Teifs finishes.
2. Teifs Sanded Primer: 100% acrylic based coating to prepare surface for Teifs Cerastone and Spraystone finishes.

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

F. Teifs Finish:

1. TeifsFlex Finish™: Factory blended, 100% acrylic polymer based finish, integrally colored.
  - a. Finish type, texture and color as selected by Project Designer.

-OR-

1. Teifs E-Lastic® Finish: Factory blended, 100 % acrylic polymer based elastomeric textured finish, integrally colored.
  - a. Finish type, texture and color as selected by Project Designer

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: Minimum ½ in thick, conforming to ASTM C1177. When these non-screwable sheathings are used, insulation board mechanical fasteners must penetrate the framing members.
2. Cement Fiber Sheathing: Minimum ½ in thick, conforming to ASTM C1325
3. Gypsum Sheathing: Minimum ½ in thick, core-treated, weather-resistant, exterior gypsum sheathing complying with ASTM C1396. When these non-screwable sheathings are used, insulation board mechanical fasteners must penetrate the framing members.
4. Plywood: Minimum  $\frac{7}{16}$  in (8 mm) thick exterior grade or PS 1, Exposure 1, minimum  $\frac{7}{16}$  in thick, C veneer facing out, panels gapped 1/8 in at all edges.
5. Oriented Strand Board (OSB) shall be Exposure 1; thickness shall be not less than  $\frac{7}{16}$  in. (11.1 mm).
6. Other Approved by Parex USA in writing prior to the project.

B. Flashing: Refer to Division 07 Flashing Section for flashing materials.

C. Mechanical fasteners:

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 Teifs 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 C920, Grade NS.
4. Expansion joints between sections of Teifs EIFS shall have a minimum width of ¾ in (19 mm).
5. Perimeter seal joints shall be a minimum width of ½ in (12.7 mm).
6. Sealant backer rod shall be closed-cell polyethylene foam.
7. Apply sealant to tracks or base coat of Teifs EIFS.
8. Refer to Parex USA current bulletin for listing of sealants which have been tested and have been found to be compatible with Teifs EIFS.
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 of TeifsPermadrain
- C. Substrate Examination: Examine prior to TeifsPermadrain installation as follows:
  1. Substrate shall be of a type approved by Parex USA. Plywood 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. 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 installation of the TeifsPermadrain. Do not proceed with the TeifsPermadrain Assembly 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 Teifs proprietary products in accordance with manufacturer's instructions.

### **3.4 APPLICATION**

- A. General: Installation shall conform to this specification and Teifs EIFS Application Guide, written instructions and drawing details.
- 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 Reinforced TeifsWeatherseal water-resistive barrier 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 ¾ 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 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.
- 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 TeifsPermadrain component debris material from job site.
- B. Clean EIFS surfaces and work area of foreign materials resulting from EIFS operations.

### **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 cured and 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 Project Designer

### **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**

<b>EIFS Fire Performance</b>	<b>Method</b>	<b>ICC or ASTM Criteria</b>	<b>Results</b>
Surface Burning Characteristics	ASTM E84	Individual components shall each have a flame spread <25, and smoke developed < 450	Flame Spread: 0 to 15 Smoke Developed: 0 to 15
Fire Resistance	ASTM E119	Maintain fire resistance of existing rated assembly	See Current ICC Report

<b>EIFS Strength</b>	<b>Method</b>	<b>ICC or ASTM Criteria</b>	<b>Results</b>
Transverse Wind Load	ASTM E330	Withstand positive and negative wind loads as specified	See Current ICC Report
Tensile Bond Strength	ASTM E2134	Minimum 15 psi (103kPa)	Pass

<b>EIFS Environmental Durability</b>	<b>Method</b>	<b>ICC or ASTM Criteria</b>	<b>Results</b>
Abrasion Resistance	ASTM D 968	No cracking or loss of film integrity at 528 quarts (500 L) of sand	Pass @ 1000 Liters
Accelerated Weathering	ASTM G 153 (Formerly ASTM G 23)	No deleterious effects* at 2000 hours when viewed under 5x magnification	Pass @ 5512 Hours
Drainage Efficiency	ASTM E2273	Min. 90%	Pass
Freeze/Thaw Resistance	ASTM E 2485	No deleterious effects* at 10 cycles when viewed under 5x magnification	Pass @ 60 cycles
Mildew Resistance	ASTM D 3273	No growth supported during 28 day exposure period	Pass @ 60 days
Moisture Resistance	ASTM D2247	No deleterious effects at 14 day exposure	Pass 28 days
Salt Fog Resistance	ASTM B117	No deleterious effects* at 300 hours	Pass @ 600 hrs
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 at 12.0 psf (575 Pa) after 45 minutes

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

<b>REINFORCING MESH IMPACT RESISTANCE</b>	<b>Classification</b>	<b>Impact Range (in-lbs)</b>
TeifsMesh	Standard	25-49
TeifsMesh 6	Intermediate	50-89
TeifsMesh 12	High	90-150
TeifsMesh 12/TeifsMesh	High	90-150
TeifsMesh12/TeifsMesh 12	High	90-150
TeifsMat 15/TeifsMesh	Ultra High	>150
TeifsMat 20/TeifsMesh	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 Teifs 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





# Teifs Permadrain Wall System Specification

CSI SECTION 07 24 00



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