



Teifs ACF for ICF Specification

CSI SECTION 09 97 22

SECTION 09 97 22 — Exterior Wall Coatings for ICF

Teifs Architectural Coatings and Finishes for Insulating Concrete Forma

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Installation of Teifs base coat, reinforcing mesh and finish installed over Insulating Concrete Form systems 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% 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 Teifs Architectural Coatings and Finishes for Insulating Concrete Forms
 - 1. An exterior coating system consisting of Base Coat with embedded Reinforcing Fabric Mesh, Primer (Optional), and Finish Coat.
- B. Teifs Architectural Coatings and Finishes for Insulating Concrete Forms 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. 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.
 - c. 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 Teifs Product Performance Sheet
3. ICF Wall Systems:
- a. Wall Dimensional Tolerances: Flat with 1/4 in (6 mm) within any 4 ft (1218 mm) radius or as defined by ICF manufacturer
 - b. Inclined surfaces shall follow 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 by Parex USA prior to installation.
 - c. Flashing: Flashing shall be continuous and watertight. Flashing shall be designed and installed to prevent water infiltration behind the System. Refer to Division 7 Flashing section for specified flashing materials
 - d. Expansion joints: Continuous expansion joints shall be installed per the ICF Manufacturers instructions.
 - e. Building code conformance: The construction shall be acceptable for use under the building code in force in the jurisdiction of the project.
 - f. Provision for non-combustible construction: Coating system shall be approved for use over the foam plastic in multi-story non-combustible construction. Consult Parex USA Technical Department for test.
 - g. Provision for termite inspection: Where required by code or pest control, do not install Teifs brand coatings on foam plastic that is less than 6 in. (152 mm) above grade. Consult ICF manufacturer for termite control ICF design.

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: For EPS trim installed in addition to Teifs Architectural Coatings and Finishes for Insulating Concrete Forms 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 be a Parex USA currently Listed Applicator
 - c. Shall be experienced and competent in installation of plaster-like materials.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver Teifs Architectural Coatings and Finishes for Insulating Concrete Forms 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 Teifs materials to substrates whose temperature are below 40 °F (4.4°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 (4.4°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 Teifs Architectural Coatings and Finishes for Insulating Concrete Forms installation with other construction operations.

1.10 WARRANTY

- A. Warranty: Upon request, at completion of installation, provide Teifs Architectural Coatings and Finishes for Insulating Concrete Forms Limited Warranty. See Teifs's warranty schedule for available Teifs 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 Teifs Architectural Coatings and Finishes for Insulating Concrete Forms 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. TeifsBase Coat & Adhesive: 100% acrylic polymer base, requiring the addition of portland cement.
 - 2. Teifs Base DB: Copolymer based, factory blend of cement and proprietary ingredients requiring addition of water.

EDITOR NOTE: RETAIN BELOW STANDARD MESH FOR TEIFS ARCHITECTURAL COATINGS AND FINISHES FOR PORTLAND CEMENT STUCCO FOR STANDARD IMPACT RESISTANCE CLASSIFICATION.

- B. Reinforcing Mesh:
 - 1. 4.8 Standard Mesh: Weight 4.8 oz. per sq. yd. (162 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. 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 Cerastone and Spraystone finishes.

EDITOR NOTE: MODIFY BELOW TO SUIT REQUIREMENTS. CHOOSE ONE #1 FINISH TYPE

D. Teifs Finish:

1. Teifs DPR Finish: Factory blended, 100% acrylic polymer based finish, integrally colored.
 - a. Finish type, texture and color as selected by Architect

-OR-

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

E. Water: Cool, clean, potable water

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

2.3 RELATED MATERIALS AND ACCESSORIES

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

B. 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. Apply sealant to tracks or base coat of Teifs 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 Teifs Exterior Wall Coatings for ICF.
- C. ICF Examination: Examine prior to Teifs Base Coat installation as follows:
 1. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
 2. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
 3. Maximum deflection of the substrate shall be limited to L/240.
- D. Advise Contractor of discrepancies preventing installation of the Teifs Exterior Wall Coatings for ICF. Do not proceed with the Teifs Coatings for ICF 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 written instructions and drawing details.
- B. Base coat
 - 1. If leveling is required, apply any Teifs Base Coat. Teifs Base Coat may be applied up to 3/8" (9.5 mm) and TeifsBase DB 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 Teifs Base Coat & Adhesive as an adhesive. Allow 24 hours to dry. Refer to Teifs 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

- A. Removal: Remove and legally dispose of Teifs Architectural Coatings and Finishes for Insulating Concrete Forms 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 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 ASTM G154	2000 hours; no deleterious effect 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 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.



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