



Liquid Roofing Products

Architectural Specifications

SECTION 09.97.26

Acrycrete **Exterior Cementitious Coating**

PART I-GENERAL

1.01 SUMMARY

- A. This specification describes the Exterior Cementitious Waterproofing Coating system known as Acrycrete as required for the specific project coatings operation.

1.02 DESCRIPTION

- A. The Acrycrete system is intended to be used as a cementitious topping and waterproofing system for existing concrete substrate for walkable and drivable surfaces including sidewalks, plaza decks, parking garages, loading docks, balcony decks and swimming pool decks. Other Acrycrete application systems are available for multiple substrates such as the following
1. Horizontal substrates:
 - ¾" T&G Plywood
 - Other concrete or cementitious surfaces
 - Existing Acrylabs membrane systems
 2. Exterior exposed vertical wall systems:
 - Concrete
 - CMU (Concrete block)
 - Other surfaces included in paragraph 1.02.A.1
 3. Below grade foundation waterproof systems:
 - Concrete
 - Parged CMU
 - Other masonry or cementitious systems

- B. In general, the Acrycrete System is intended for successful applications at surfaces above and below grade, positive and negative sides, and floors below and above grade.
- C. Refer to Acrylabs Technical Department for specific Specification Sections in the 09.97.26 family for all specific descriptions and installation instructions.
- D. This specified system can be used as a full coverage system, hole and surface repair, decorative surface treatment, "knock-down" finish, spray texture finish and other similar finishes for concrete substrate repair and waterproofing.

1.03 REFERENCES

- A. ASTM C33: Specification for Concrete Aggregates
- B. ASTM C150: Specification for Portland Cement
- C. ASTM C 1404: Standard Test Method for Bond Strength of Adhesive Systems used with concrete as measured by direct tension.
- D. ASTM C1445-04 Standard Test Method for Determining the Apparent Chloride Diffusion Coefficient of Cementitious Mixtures.
- E. ASTM C1059-08: Standard Specification for Latex Agents for Bonding Fresh to Hardened Concrete.
- F. ASTM C957-06: Standard Specification for High Solids Content, Cold Liquid Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.
- G. ASTM C666M-031: Standard Test Method for Resistance of Concrete to Rapid Freezing and thawing.
- H. ASTM C884-05: Standard Test Method for Thermal Compatibility Between Concrete and an Epoxy Resin Overlay.

1.04 QUALITY ASSURANCE

- A. Supplier Qualifications: The ACRYCRETE System as supplied by Acrylabs, 101 N. Prospect Street, Reading, PA 19606. (No substitutes)
- B. Applicator Qualifications: The applicator shall be approved by Acrylabs to apply the system. Manufacturer's written verification of applicator approval is to be included with Bid Forms.

1.05 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Containers and Packaging: Deliver materials in original sealed containers, clearly marked with manufacturer's logo; full product name; and lot number(s).
- B. Storage: Store materials between 50° F and 85° F with careful handling to prevent damage to products. If conditions exceed these ranges, special consideration in storage must be taken. Do not store at high temperatures in direct sunlight.
- C. Protection: Protect all materials from freezing and other damage during transit, handling, storage, and installation.

1.06 ADVANTAGES AND BENEFITS

- A. Protects masonry surfaces from water damage.
- B. Will not peel off like stick-on adhesives.
- C. Wear-resistant and resistant to damage.
- D. Resists ponding water.
- E. Extremely U.V. resistant.
- F. Resists acid rain and chemical pollutants to protect from chemical spills and fall-out damage.
- G. Meets V.O.C. emissions and regulations to eliminate facility downtime during installation.
- H. Environmentally safe.
- I. Easy application and cleanup.
- J. Tough.
- K. Durable.
- L. Attractive.
- M. No special equipment required to install.

1.07 PROJECT CONDITIONS

- A. For application details of coating system consult Acrylabs for recommendations on the proper system to use on project substrate and at expected substrate and ambient temperatures.
- B. Do not proceed with application of coating materials when surface or ambient temperature is less than 45° F or when freezing temperatures are expected within 24 hours.
- C. Moisture content of concrete substrate must be less than 20% and the ph must be between 5 and 8.
- D. Cross reference preparation work with paragraph 1.08, Inspection and Assessment.
- E. Do not apply materials unless surface to receive system is clean and dry.
- F. Install all material in strict accordance with all published safety, weather, or applicable specifications of the manufacturer and/or regulations of local, state, and/or federal agencies which have jurisdiction.

1.08 INSPECTION AND ASSESSMENT

- A. Inspection and Assessment by installer should include the following:
 - 1. Condition of substrate
 - 2. Necessary preparation work
 - 3. Adequate slopes for drainage when applicable
 - 4. Extent and/or physical limitation of coating systems
 - 5. Limiting environmental conditions
 - 6. Cleanliness of surface

1.09 SYSTEM DESCRIPTION

- A. Performance Requirements:
 - 1. Furnish and install liquid applied Acrycrete System reinforced composite membrane system in accordance with manufacturer's performance criteria without defects, damage, failure, or infiltration of water.

1.10 SUBMITTALS AND WARRANTIES

- A. Product Data: Provide written technical information and installation instructions from Acrylabs which demonstrates that materials to be installed comply with contract documents.

- B. Submit shop drawings indicating details showing treatment of transitions, edges, closures, penetrations, etc.
- C. Submit Acrylabs Material Safety Data Sheets (SDS).
- D. Verify field measurements and submit materials list, including quantities, to be applied to achieve specified membrane thickness.
- E. Furnish Acrylabs 5-year Renewable Material Performance Warranty.
- F. Contractor/applicator will provide 2-year workmanship warranty on application of Acrylabs products and repairs to substrate. The occurrence of leaks caused by defects in workmanship will be remedied at no cost to the building owner according to provisions of the contractor warranty.

1.11 QUALITY ASSURANCE

- A. Applicator Qualifications: The applicator of the coating material specified herein shall be an approved applicator (designated by Acrylabs). Proof of this qualification shall be provided in written form from the manufacturer of the coating system.
 - 1. Certificate: When requested, submit certificate indicating applicator qualifications.
 - 2. Completed project reference list: When requested, submit a list of three (3) projects of similar nature using products of the type specified herein. List shall include the following: Project name and locations, size, cost, contact person and phone number.
- B. All details must be installed in conformance with the current Acrycrete specifications and detail drawings.
- C. Final inspection by an authorized representative of Acrylabs shall be required for warranty. Final inspection shall not replace the normal responsibilities of the contracting parties. Request for final inspections must be forwarded to Acrylabs upon substantial completion of the project. Any deviations from Acrycrete specifications must be noted on an "as-built" drawing.
- D. Provide all primers, coatings, reinforcement fabrics and accessories as manufactured and/or approved in writing by Acrylabs.

1.12 ENVIRONMENTAL CONDITIONS

- A. It is the responsibility of the applicator to determine if present and forecast weather conditions are acceptable for application of Acrycrete coatings.

- B. Do not apply Acrycrete coatings when precipitation in the form of rain, snow, dew, etc. is expected before materials have a chance to dry fully. Do not apply Acrycrete coatings when freezing temperatures are possible within 24 hours after application.
- C. Do not apply coatings when the temperature of surfaces to be coated and/or surrounding air temperatures are less than 45°F. Refer to Section 1.07, paragraph B.
- D. Do not apply Acrylabs coatings when the dew point can be reached before the coatings have sufficiently dried or cured. Special considerations must be given during spring and autumn applications for rapid temperature changes near sunset, shortened workdays may be required.
- E. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before proceeding with or continuing coating operation.
- F. Wind conditions must be considered during application of products to avoid damage to adjacent surfaces or completed work. Provide for protection of other surfaces.

1.13 SAFETY REQUIREMENTS

- A. Users should familiarize themselves with appropriate Material Safety Data Sheets (SDS). SDS must be available at all worksites where materials are being used.
- B. Materials shall be applied in accordance with all applicable local, state, and federal regulations.
- C. Handle on pails should only be used to hand carry pail and should not be used to hoist pail from ground to roof.

PART 2 – PRODUCTS

2.01 LIQUID APPLIED REINFORCED COMPOSITE MEMBRANE SYSTEM

- A. Manufacturer: Acrylabs
Contact: 101 N. Prospect Street, Reading, PA 19606
Phone: (866) 273-1355
E-mail: CustomerService@acrylabs.com
Website: www.acrylabs.com
- B. Substitutions: None

2.02 MATERIALS

A. The Acrylabs R45 System shall include but not be limited to:

- | | |
|---------------------------------|----------------------|
| 1. Elastomeric Basecoat | Acrylabs Base Coat |
| 2. Elastomeric Finish Coat | Acrylabs Finish Coat |
| 3. Polyester Reinforcing Fabric | Fabric Reinforcement |

B. Acrylabs Minimum Material Properties:

1. Elastomeric Coatings – Elastomeric coatings shall be water-dispersed 100% acrylic elastomeric coatings designed for use in reinforced composite membrane systems. Materials shall meet the following minimum specifications:

Liquid Property Requirements Base Coat

	<u>Minimum</u>	<u>ASTM</u>
Weight Per Gallon	12 lbs.	D-1475
Solids by Weight	67%	D-1644-A
Solids by Volume	55%	D-2697
Viscosity	125 - 140 KU	D-562-A

Liquid Property Requirements Finish Coat

	<u>Minimum</u>	<u>ASTM</u>
Weight Per Gallon	12 lbs.	D1475
Solids by Weight	67%	D-1644-A
Solids by Volume	55%	D-2697
Viscosity	125-140 KU	D-562-A

Cured Film Physical Property Requirements Base Coat

	<u>Minimum</u>	<u>ASTM Standard</u>
Low Temperature Flexibility	passes	D522-93A
@ -49°F		
Percent Elongation (break)	196%	D-2370
@73.4°F		
Tensile Strength (psi)	236 psi	D-2370
@73.4°F		
Permeability (20 mil film)	<21.9 perms	D-1653-B

@73.4°F

Water Swelling	9.2	D-471
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@73.4°F

Accelerated weathering	2 years-no effect	G-53
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Fungi Resistance	Zero rating	
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Cured Film Physical Property Requirements Finish Coat

	<u>Minimum</u>	<u>ASTM Standard</u>
Low Temperature Flexibility	passes	D522-93A
@ -49°F		
Percent Elongation (break)	196%	D-2370
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Tensile Strength (psi)	236 psi	D-2370
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Permeability (20 mil film)	<21.9 perms	D-1653-B
@73.4°F		
Water Swelling	9.2	D-471
@73.4°F		
Accelerated weathering	2 years-no effect	G-53
Fungi Resistance	Zero rating	

Cured Film shall also pass Rain Permeability testing according to ETP-1375, Mil-Std-810E, Method 506.3, Proc.III

2. Fabric Reinforcement – Stitch bonded polyester for use in cold liquid applied roof membranes that shall provide high strength and good elongation.

Fabric Reinforcement (Average typical properties)

<u>ASTM Standard</u>	<u>Results</u>	
Tensile strength	WARP=74lb / WEFT=45lb	D-5034
Elongation	WARP=21lb / WEFT=51lb	D-5034
Ball Burst	111 lbs.	D-3787
Mullen Burst	176.8 lbs.	D-3786
Tear Strength	WARP=14lb / WEFT=24lb	D-1117

2.03 APPLICATION EQUIPMENT

- A. Waterproofing Membrane: Acrycrete coatings shall be applied by brush, trowel, or roller.
- B. Acrycrete Textured Finish System: Textured system may be “brush dropped” for a knockdown texture. Acrylabs recommends that a hand-held, texture spray gun and hopper be used. Air pressure must be a continuous 25 psi with a regulation valve at the gun. Trowel will be necessary for “knockdown” effect.

2.04 RELATED MATERIALS AND ACCESSORIES

- A. Related products supplied by Acrylabs as required:
 - 1. Acrylic Base Coat Cementitious Interface
 - 2. Flashing Grade Elastomeric
 - 3. Universal Cleaner
 - 4. Rust Inhibitive Primer
 - 5. Concrete and Masonry Sealer
- B. Sealant (**Silicone sealant unacceptable**)
 - 1. Polyurethane
 - 2. Polysulfide
 - 3. Acrylic

PART 3 – EXECUTION

3.01 MANUFACTURES INSTRUCTIONS

- A. Compliance: Comply with Acrylabs product data, recommendations and installation instructions for substrate verification, preparation requirements and installation.

3.02 EXAMINATION

- A. Examine the substrates, flashing conditions, penetrations, equipment supports, curbs, adjoining construction and the conditions under which the work is to be installed. Do not proceed with the work until unsatisfactory conditions have been corrected and substrate is acceptable.
- B. Applicator shall be responsible for providing a proper substrate to receive the Acrycrete system.
- C. Verify that substrate is dry and free of oil, grease, dust, rust, or other contaminants.

- D. Defects in substrate shall be noted and work shall not proceed until such defects have been corrected.

3.03 PREPERATION

- A. Substrate: After existing substrate is cleaned and repaired, as required, but prior to starting new coating system installation work, complete all substrate corrective actions required. Substrate shall be dry and free of debris.
- B. Concrete decking, balconies, and other walking surfaces shall be power washed at medium pressure to insure a clean acceptable surface.
- C. All structural steel or other ferrous secondary structural members shall be wire brushed thoroughly and cleaned to insure a rust-free surface. White metal finish is not required.
- D. Apply one coat of rust inhibitive primer to all cleaned ferrous metal surfaces.
- E. Install Acrylabs Brushable Sealant or thickened Acrycrete to all open joints, cracks, and seams.

3.04 INSTALLATION

A. Liquid Applied Waterproof Membrane

1. Following inspection and acceptance of substrate condition, install the Acrycrete System using minimum coverage indicated in the manufacturer's guidelines. Adherence to guidelines will yield a minimum membrane thickness of 45 mils over entire surface covered.
2. Detail-Bridging at 90° intersection and at changes in plane. Acrycrete & Fabric System consist of an initial coat of Acrycrete tack coat applied to the substrate, Acrylabs Fabric Reinforcement (sizes vary) laid into the wet Acrycrete tack coat (carefully removing all wrinkles and fish mouths), then apply the Acrycrete saturation coat over the Fabric Reinforcement. Care should be given to ensure that adjacent runs of fabric are overlapped a minimum of 3 inches. Acrycrete is applied at a total rate of 1 gallon per 100 sq. ft. per coat depending on substrate.
3. Field- Acrycrete & Fabric System consist of an initial coat of Acrycrete tack coat applied to the substrate, Acrylabs Fabric Reinforcement (sizes vary) laid into the wet Acrycrete tack coat (carefully removing all wrinkles and fish mouths), then apply the Acrycrete saturation coat over the Fabric Reinforcement. Apply two additional coats of Acrycrete over the entire base system and all details. Acrycrete is applied at a total rate of 1 gallon per 100 sq. ft. per coat depending on substrate.
4. Roof Brush shall be used to ensure that Fabric Reinforcement is fully embedded.

B. Textured Deck Coating

1. Contact Acrylabs Technical Department pursuant to textured or Knock-Down decorative applications.

3.05 FIELD QUALITY REQUIREMENTS

- A. Verify final film thickness as specified. If specified dry film thickness has not been achieved, application of additional coating will be required.
- B. Visually inspect critical areas of the deck surfaces including seams, cracks, joints and penetrations, touch up with additional Acrylabs coatings to ensure complete and adequate coverage.

3.06 FINAL CLEANING

- A. Except as otherwise provided remove temporary protection devices and facilities which were installed during the course of the work.
- B. Clean project site, sweep paved areas, and rake clean other surfaces of construction debris.
- C. Remove debris, surplus materials, and trash from project site.
- D. All soiled surfaces shall be cleaned using approved materials and methods.

END OF SECTION