

ACRYLIC ROOF COATING RESTORATION (RCR) SYSTEM OVER ACRYLIC COATED ROOF

Part 1. General Conditions

1.01 Description

A. Scope of Work

Provide all materials, labor and equipment required for the installation of the Acrylic RCR System over the existing acrylic coated roof including all ancillary products.

B. Related Work

1. Perform Moisture Survey
2. Replace Wet Insulation
3. Repair All Sheet Metal Defects
4. Repair All Flashing Defects
5. Surface Preparation
6. Perform Adhesion Tests
7. Install Acrylic RCR Membrane

1.02 Performance Requirements

- A. All acrylic products must be domestically produced. Products produced outside of the US will not be accepted.
- B. Coating manufacturer must produce its own product. Private labeled acrylic coating products will not be accepted.

1.03 Submittals

- A. Product Data: Product data on acrylic coating, physical and chemical properties, preparation of substrate required, product limitations, and cautionary requirements.
- B. Safety Data Sheets (SDS)
- C. Shop Drawings: Roof plan and details showing extent of roofing, intersections with adjacent surfaces, and details of expansion joints, counterflashing, and other items for a complete roofing system.
- D. Manufacturer's Installation Instructions: Indicate installation requirements and procedures.
- E. Certificates:
 1. Product certificates signed by the manufacturer certifying material is in compliance with the specified performance characteristics and criteria, and physical requirements.
- F. Sample copy of PM warranty
- G. Maintenance Data: For Acrylic RCR System to include in maintenance manuals.
- H. Final Inspection Report: Copy of roofing system manufacturer's inspection report of completed roofing installation.

1.04 Quality Assurance

A. Manufacturer:

1. Company specializing in the manufacturing of the system specified in this Section.

B. Installer:

1. Installer must be a Certified Licensed Applicator (CLA) by the Manufacturer providing the warranty and must be capable of receiving the specified warranty.
2. CLA to ensure all personnel are properly trained and have a full understanding of all OSHA safety requirements.

1.05 Delivery, Storage, and Handling

- A. Deliver and store liquid materials and other products in their original unopened containers or packaging until ready for installation.
- B. Materials shall be clearly labeled with the manufacturer's name, product identification, safety information, and lot numbers.
- C. Store materials indoors whenever possible.
- D. Protect stored products from freezing.
- E. Comply with the manufacturer's instructions for handling and safety procedures.
- F. Store and dispose of roofing tools, materials, containers, and equipment in accordance with requirements of local authorities having jurisdiction.

1.06 Environmental Requirements

- A. Maintain logs of environmental conditions (temperature, humidity, and wind speed) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside of manufacturer's limits.
- B. Weather Limitations: Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.
- C. Do not install acrylic coating under the following conditions:
 1. When ambient temperature is below 50° F or could fall below 32° F within 24 hours of application.
 2. When rain or dew is likely to occur before product dries.
 3. In late afternoon, when facing conditions of high humidity, as overnight dew can cause product wash-off.

1.07 Warranty

- A. Provide Manufacturer's 10-year labor & material warranty covering leaks due to acrylic material failure. Two passes at 1.5 Gallons per square for a total of 3 gallons (25 mils).

Part 2. Products

2.01 Acceptable Products

A. Insulation Board

1. Match existing material

B. Caulking Sealant

1. Acrylic caulking sealant meeting the following physical properties shall be approved:
 - a. Elongation: >400%
 - b. Tensile Strength: >350 psi
 - c. VOC: <50g/L
2. Manufacturer, product name and number, and product data sheets must be submitted to PM for approval prior to starting any warranted projects.

C. Flashing Grade Acrylic Mastic

1. Progressive Materials AM series mastic.
2. Manufacturer, product name and number, and product data sheets must be submitted to PM for approval prior to starting any warranted projects.

D. Reinforcing Fabric

1. Progressive Materials: PF 200 Polyester Fabric
 - a. PF 206 – 6”
 - b. PF 212 – 12”

E. Skylight Sealer

1. Progressive Materials: Pro-Seal HS 3220 Clear Silicone Skylight Coating

F. Acrylic Coating

1. Progressive Materials: Pro-Hydro AC 1200 Acrylic Roof Coating

2.02 Acrylic Coating Materials

A. Approved roof coating is Pro-Hydro AC 1200 Acrylic Roof Coating, manufactured by Progressive Materials, LLC and complying with the following minimum properties:

1. Tensile Strength: ASTM D-2370
2. Elongation: ASTM D-2370 388 ± 25
3. Water Vapor Permeance: ASTM D-1653 14 ± 2
4. Color: Owner to select standard topcoat color.
5. Solids Content: 53 ± 2
6. VOC Content: < 50 grams/liter
7. Initial Solar Reflectivity: .84 * White only
8. Initial Thermal Emissivity: .91 * White only
9. SRI Value: 106

Part 3. Execution

3.01 Examination

- A. Verify roof slope prior to beginning installation.
 - 1. Standing water areas of any size will adversely affect the performance of any roofing system. Care should be taken during examination to identify any areas of standing water present on the roof 24 or more hours after the latest rain event. In standing water areas where positive drainage does not exist, measures such as lowering drains, installing additional drains, etc. must be taken to ensure positive drainage and eliminate all instances of standing water on the roof. Any section of the roof exposed to standing water after the completion of the Acrylic Roof Coating Restoration project will be excluded from the warranty.
- B. Perform infra-red thermal scan of roof to identify any wet insulation.
- C. Identify all seam failures, flashings failures and inadequate sheet metal details.
- D. Inspect all roof drains to ensure proper performance.
- E. Inspect all roof system fasteners for back out.

3.02 Preparation

- A. Existing Coating Cleaning
 - 1. Thoroughly powerwash roof surface and all other areas to receive new coating with a minimum of 2,000 psi water pressure. Be sure not to damage existing coating during this process.
 - 2. After the surface has fully dried, perform an adhesion test. If the coating does not properly adhere to the surface, consult manufacturer for recommendations.
 - 3. Any areas of grease contamination are to be cleaned with industrial strength detergent.
- B. Existing Wet Insulation Areas:
 - 1. Roof areas containing moisture below the roof surface shall either be replaced, or for areas less than 500 sq. ft. with moderate moisture content, a moisture relief vent shall be installed.
 - a. Wet Insulation Replacement (wet area is greater than 500 sq. ft.)
 - 1) Cut existing coating on four sides and remove.
 - 2) Remove underlying roof substrate to expose wet insulation.
 - a) Ensure that the area of substrate removed is less than the area of coating removed.
 - b) If substrate is a membrane system, cut three sides of membrane and fold back to expose wet insulation.
 - 3) Remove and replace insulation with identical insulation materials. Fasten new insulation at a rate of 1 fastener per 2 square feet.
 - 4) For membrane substrates, fold original membrane back over top of the new insulation.
 - a) Membrane cuts are to be fastened with barbed membrane seam fasteners staggered 6" o.c.
 - b) Install 25 mils of AC 1200 coating approximately 16" wide centered over membrane cuts.
 - c) Install 12" wide PF 212 Polyester Fabric into the wet coating. Smooth out fabric and ensure there are no wrinkles or fishmouths.
 - d) Install another coat of AC 1200 coating at a rate of approximately 25 mils over new fabric.

- 5) Apply 25 mils of AC 1200 over the exposed substrate.
- b. Moisture Relief Vent Installation (wet area is less than 500 sq. ft.)
 - 1) Locate center of moisture-containing insulation.
 - 2) Cut a 4" diameter opening through the coating, membrane and insulation material; remove material to vapor barrier or deck.
 - 3) Lay the MRV 600 Roof Vent on top of roof membrane and attach vent to the roof deck with the appropriate fastener. Install 4 fasteners per vent, evenly spaced.
 - 4) Clean area of vent that is to receive flashing material with clean rag and solvent to remove oil film from vent.
 - 5) Flash in vent with one of the two following procedures:
 - a) Apply 3-course coating and fabric utilizing the PF 200 Polyester Fabric and AC 1200 Acrylic Coating
 - (1) Apply 1.5 gallons per square (25 mils) of acrylic coating over surface to receive fabric.
 - (2) Embed the fabric into acrylic coating while still wet. Fabric should extend at least 2" on to the flange of the vent and at least 4" on to the roof surface.
 - (3) After the base coating has cured, apply 1.5 gallons per square (25 mils) of acrylic coating over the fabric to ensure complete saturation.
- C. Flashing Details: Ensure all existing flashings provide a watertight condition. If necessary, re-flash any areas required utilizing a 3-course fabric-coating-fabric method.
- D. Coating Failures: Repair all existing coating failures by cleaning the area around the failure and installing 1.5 gallons per square (25 mils) of AC 1200 Acrylic Roof Coating.
- E. Sheet Metal: Ensure all sheet metal accessories are in good condition and will provide a watertight condition. If necessary, replace or repair any sheet metal required to provide a watertight condition.

3.03 Acrylic Coating Installation

- A. Ensure surface is completely dry.
- B. Ensure all existing areas of ponding water have been completely remediated to avoid exclusion from warranty.
- C. Ensure subsequent coats of primer or acrylic coating are completely cured.
- D. Ensure adhesion tests and moisture surveys have been completed and results are satisfactory with the manufacturer's requirements.
- E. Install acrylic coating in one over entire roof surface to achieve a final thickness of:
 1. 25 mils minimum for a 10-year warranty
- F. NOTES:
 1. While spraying the acrylic coating, special effort should be made to have pass lines overlap on membrane seams as to provide additional coating thickness on the seams.
 2. Passes should be applied perpendicular to each other (crosshatched) and completely cure
 3. It is strongly recommended that the acrylic coating should be applied with a roller at all edges and penetrations to prevent overspray and provide a clean, straight edge.

4. Any subsequent roof repairs after the coating installation should be performed with three-course coating and fabric if needed.

3.04 Skylight Coating Installation

- A. Skylights should not be coated until after the surrounding roof surface has received Pro-Hydro AC 1200 Acrylic Roof Coating to ensure adequate adhesion to the roof-skylight flashing surface.
 1. The skylight surface must be completely clean, dry, and free of loose particles.
 - a. HS 3220 Pro-Eco Lite Skylight coating should be applied to receive a final dry mil thickness of 30 mils (approximately 2.25 gallons/square). It is advised that HS 3220 be applied in multiple coats to eliminate sag or runoff.

3.05 Field Quality Control

- A. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation upon completion and submit report to Owner/Architect. There shall be no items on the roof that could inhibit the inspection process, such as solar panels, deck systems, etc.
 1. Notify Owner 48 hours in advance of date and time of inspection.
 - a. Repair or remove and replace components of roofing system where inspection results indicate that they do not comply with specified requirements.

3.06 Cleaning

- A. Remove any overspray from adjacent surfaces using cleaning agents and procedures recommended by manufacturer of affected construction.
- B. In areas where finished surfaces are soiled by work of this section, consult manufacturer of surfaces for cleaning advice and conform to their instructions.
- C. Repair or replace defaced or disfigured finishes caused by work of this section.

3.07 Protection of Finished Work

- A. Ensure roof surface is free of traffic for minimum of 12 hours after acrylic coating application or until coating is completely cured.
- B. Ensure any subsequent work does not cause damage to finished roof system. If necessary, install protection over finished roof area.

END OF SECTION