

ARS-2-PVDF-A INSTALLATION GUIDE

PARTIALLY REINFORCED FLUOROPOLYMER COATING SYSTEM

Metal Roofs with existing PVDF Finish

1. DESCRIPTION

The Acrymax ARS-2-PVDF-A Roof Coating System is a partially reinforced elastomeric roof coating system that is designed for use on metal roofs with existing factory applied fluoropolymer (PVDF) finishes. This system provides protection, weatherproofing, and architectural color. It exhibits excellent adhesion, exceptional durability, and long-term weatherability.

As specified the ARS-2-PVDF-A system provides coating thickness of 7-10 mils on the field of the roof and 40 mils on the reinforced areas.

2. MATERIALS

The materials used in the ARS-2-PVDF-A Systems may include but not be limited to:

- AF-5500 Fluoropolymer Coating
- AF-5500P Fluoropolymer Primer
- AF-130BC Basecoat
- Poly-1 Polyester Reinforcement Fabric
- AF-315 Fibrated Acrylic

3. APPLICATION EQUIPMENT

Acrymax coatings can be applied by brush, roller, or spray. Airless spray is the most efficient method of application where proper conditions and expertise exist. Spray Equipment for AF-5500 should be capable of 1 gallon per minute output and 1,500 psi pressure. A reversible, self-cleaning tip with orifice size of .015" to .021" should be used. For AF-130 coatings spray equipment should be capable of 2500 – 3000 psi with output of 2 - 2.5 gallons per minute. A reversible, self-cleaning tip with orifice size .027 to .041" should be used. Application by roller or brush may require additional coats to achieve uniform coating thickness, but material

requirements will generally remain the same. Rollers should be medium or long nap. (3/4" recommended)

4. INSTALLATION

Installation of the ARS-2-PVDF-A roof coating system is accomplished in six (6) basic steps:

- a. Repair
- b. Preparation
- c. Priming
- d. Treatment of seams, fasteners, and details
- e. Application of roof coatings
- f. Inspection

Before installation of the ARS-2-PVDF-A system an adhesion test must be done to verify adequate adhesion of AF-5500 to the existing roof finish. *Consult Acrymax.*

(a) Repair

All necessary roof repairs must be done according to good construction practices including the replacement of all metal roof panels that are deemed unsalvageable or unsafe. All panel fasteners must be checked and any loose fasteners must be tightened or if necessary replaced with oversized fasteners.

(b) Preparation

Acrymax roof coatings must have a clean surface to adhere to. Proper roof surface preparation is the key to successful applications of all coating systems! All dirt, debris, oils, and contaminants that can interfere with adhesion of coatings must be removed by the most effective method possible. High pressure water is the recommended method when appropriate. Vacuuming, stiff brooming, and low pressure water washing also can be used. If cleansers are used all residues must be completely

removed with thorough rinsing. When high-pressure water washing is used it should be done at a pressure suitable to remove embedded dirt and contaminants without damaging the substrate that is being cleaned and care must also be taken to make sure that water does not intrude into the building.

A tape test should be used to determine acceptability of cleaned surface for coating application. This is done by applying masking tape to the surface to be coated, and then peeling off the tape. If the adhesive side of the tape shows contaminants that will interfere with the adhesion of the coatings, then further cleaning or use of a primer may be necessary.

Inadequate preparation of corroded metal roof surfaces can lead to premature failure of the roof coating system. Rust must be removed using the most rigorous method suitable for each particular job. Jet water blasting, sand blasting, power wire brushing are effective. Coatings must not be applied over loose untreated rust.

(c) Priming

Rust must be removed by the most rigorous method suitable for the particular project. Prepared surfaces should be primed with AF-5500P immediately after cleaning to prevent rust from reoccurring. AF-5500P should be applied at the minimum rate of 1 gallon per 200 square feet. On roofs that exhibit minor or localized rust spot prime these areas. On some roofs AF-5500P may be required on the entire roof. Primer must only be used after proper and thorough preparation of the surface to be primed. Consult Acrymax for complete information on treatment of rusted metal.

AF-5500 must be applied as a primer to roof seams, around penetrations, and all other areas that will be reinforced or sealed with AF-315 Fibrated Acrylic. Extend the prime coat at least 3” beyond the area that will be reinforced. A 3” circle around any exposed roofing fasteners must also be primed.

(d) Seams, fasteners, & details

Seams, flashings, roof penetrations, and other details should be reinforced as necessary.

1. Make sure that area to be reinforced has been adequately primed with AF-5500.
2. Apply liberal coat of AF-130BC to the area to be reinforced.
3. Immediately embed the appropriate width Poly-1 Reinforcement Fabric into wet coating. Make sure that Poly-1 is fully embedded, tight to roof surface, and without air pockets, fishmouths, or wrinkles.
4. Apply saturation coat of AF-130BC to the top of the fabric to completely saturate and provide a weatherproof seal.
5. Apply additional coat of AF-130BC at rate of 1 gallon per 100 square feet to cover all reinforced areas.

Estimated AF-130BC coating required to install reinforcement per 100 linear feet

Poly-1 Width	4”	6”	12”	18”	40”
Gallons	1.0	1.5	3.0	4.5	10.0

Note: The above estimated material requirements are for coating materials that are required to apply the tack coat that is used to embed Poly-1 and for the saturating coat that is applied after reinforcement has been installed. These areas that have been reinforced must then be coated with an additional coat of AF-130BC applied at the rate of 1 gallon per 100 square feet. These areas must also be coated again with each subsequent application of coatings that are part of the system. Special attention should be given to insure complete and adequate coverage at these critical areas.

Alternative Seam Treatment: Apply AF-315 Fibrated Sealer using a brush to an appropriate thickness (up to 3/16”) extending the sealant a minimum of 2” on either side of the seam while feathering the edges. This method should only be used where gap at seams is less than 1/8”. Seams with gap greater than 1/8” should be reinforced with Poly-1.

Treatment of fasteners: Create a watertight seal on all previously primed fastener heads by applying a heavy dab of AF-315 to the tops of all fastener heads.

(e) Application of Roof Coatings

Before application of roof coatings verify that the surface to be coated is cleaned and prepared

properly. At any time during application of the Acrymax system if roof surface becomes contaminated with dirt, dust or other materials that will interfere with adhesion of the coatings then cleaning measures must be taken to restore the surface to a suitable condition. Dust should be blown off of surfaces to be coated with blowers immediately before application of coatings.

Note: Corrugated metal roofs represent a larger surface area than would be encountered on a flat roof of similar dimensions. The particular corrugation factor of the roof to be coated must be used to calculate the actual surface area to be coated. This factor can add 10-50% or more to the area calculated by using the dimensions of the roof.

Acrymax Fluoropolymer coatings must be applied in a minimum of 2 coats. Additional coats may be required to achieve desired dry film thickness.

1. **Base Coat** – Apply Acrymax AF-5500 in a uniform manner at the rate of .5 to .75 gallons per 100 square feet. Allow to dry.
2. **Finish Coat** - Apply Acrymax AF-5500 in a uniform manner at the rate of .5 to .75 gallons per 100 square feet.

Allow 4 hours minimum dry time between coats. On sloped roofs or vertical surfaces 3 or more coats may be required to prevent sagging of applied coating.

Minimum dry film thickness required for AF-5500 is 7 mils. (1 gallon per 100 square feet = 7 mils, 1.5 gallons per 100 square feet = 10 mils) If necessary apply additional coat(s) of AF-5500 to achieve necessary film thickness.

(f) Inspection

Inspect entire roof area and touch-up deficient areas with additional Acrymax AF-5500 as necessary to insure complete and uniform coverage. Special attention should be given to critical areas of roof such as seams, fastener heads, roof penetrations, etc.

5. LIMITATIONS

These are general guidelines for application of the Acrymax ARS-2-PVDF-A System. The material requirements may vary depending on the specific job requirements. If unusual conditions exist, contact Acrymax Technical Service at 610-566-7470. Acrymax Fluid Applied Elastomeric roofing systems must be applied to structurally sound substrates. All surfaces must be clean and dry before application of roofing. The suitability of Acrymax coatings or systems for an intended use shall be solely up to the user. Drying time and coverage are not guaranteed. Acrymax roofing systems must not be applied over wet insulation or related materials. Failure of the substrate does not constitute failure of the Acrymax coating or system. Acrymax systems are designed for use on well drained roofs, however, they are acceptable for use where poor drainage causes temporary ponding. Acrymax Coatings should not be applied when rain or freezing temperatures are expected within 24 hours of application.

6. WARRANTY

Acrymax offers limited material warranties for the ARS-2-PVDF-A system when all materials are used in strict accordance with all of Acrymax's written requirements and recommendations and required dry film thicknesses are achieved. Acrymax's sole responsibility under this limited material warranty is for defective material and Acrymax's obligation shall not exceed the purchase price of the Acrymax materials used or part thereof proven to be defective. Submittal of required documentation is required for warranty. Consult Acrymax for details. This warranty gives specific legal rights and you may have other legal rights that vary from state to state. No statement by anyone may supersede this limited material warranty, except when done in writing by Acrymax's Technical Service Office in Media, PA. Specific jobs that meet certain requirements, are pre-approved by Acrymax, and applied by an Acrymax approved applicator may qualify for system warranties covering labor and material. (Consult Acrymax)

INSTALLATION NOTES:

1. Acrymax coatings are waterborne. Consequently application of these materials must not be done when rain or other conditions such as fog or heavy dew are possible before coating can dry sufficiently to be resistant to these occurrences. Drying time is affected by numerous factors including temperature, direct sunlight, relative humidity, air movement, thickness and color of applied coating, etc... Under proper conditions dry times for coatings will be from 2 to 4 hours, but under adverse conditions dry times can range to 12 hours or more. Application should not be done when temperatures are below 45°F or expected to drop below freezing before coating is dry. Special attention should be given to the dew point temperature because when this temperature is reached and dew forms the drying process of the coatings will cease.
2. Coatings should be allowed to dry thoroughly between coats. *Minimum* dry time between coats is 4 hours.
3. During extremely hot conditions do not apply coatings, or apply coatings in thinner applications to prevent blistering. Additional coats will be required to achieve specified dry film thickness.
4. The material requirements specified herein are for typical conditions. The number of gallons required may need to be increased to account for uneven application, applicator inefficiencies, surface texture, or other conditions. In all cases minimum dry film thickness must be achieved.
5. Surfaces must always be clean before application of Acrymax coatings. Care must be taken to insure that on-site manufacturing emissions or extended time intervals after original cleaning do not interfere with any stage of the coating applications. If either condition occurs then cleaning may be required again.
6. Adequate coating thickness is essential to performance. If the applicator is unfamiliar in gauging application rates, we suggest that a controllable area be measured and the specified material be applied. In all cases all minimum specified material must be applied and proper minimum dry film thicknesses must be achieved. Care must be taken to insure that all areas completed including all flashings, roof penetrations, etc. are coated sufficiently to insure a watertight seal.
7. Consult ACRYMAX TECHNOLOGIES if any deviations from published specifications are considered. Unapproved deviations from installation guidelines and specified material requirements may seriously affect the coating system performance, and shall be undertaken at the specifier's, applicator's or building owner's own risk.
8. Applicator must comply with all applicable local, state, and federal regulations if lead based paint or other hazardous materials are encountered.
9. Roofing is hazardous work and coatings are very slippery when wet. Comply with fall protection rules and regulations.

Acrymax® is a registered trademark of Acrymax Technologies, Inc.

Copyright © 2009 by Acrymax Technologies, Inc.