

ARS-1-FR INSTALLATION GUIDE

FM APPROVED FULLY REINFORCED ELASTOMERIC MEMBRANE SYSTEM Asphalt Roofs

1. DESCRIPTION

The Acrymax ARS-1-FR System is a fluid applied reinforced elastomeric membrane system for weatherproofing smooth surface and granulated asphalt substrates including existing BUR and Modified Bitumen roofs. Combining multiple coats of waterborne AF-130FR Coatings with high strength polyester reinforcement the ARS-1-FR system cures to a durable, weatherproof, fully reinforced, and fully adhered elastomeric membrane. The ARS-1-FR System once applied provides the basis for a sustainable roof system that is easily maintained. It offers an environmentally responsible method for roofing and weatherproofing applications. The ARS-1-FR system when applied properly will yield a membrane thickness of 45 mils as described herein. This system is FM approved for use on existing asphalt roofs when applied according to specification.

2. MATERIALS

The materials used in the ARS-1-FR System may include but not be limited to:

- AF-130FR Elastomeric Coating
- Poly-1 Reinforcement Fabric
- AF-127 Sealer-Primer
- AF-315 Fibrated Acrylic
- AF-9000 Modified Asphalt Emulsion

3. APPLICATION EQUIPMENT

Acrymax AF-130 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 should be capable of 2500 – 3000 psi with output of 1 to 2.5 gallons per minute. A “Reverse-a-Clean” tip with a tip size from .027 to .041 should be used. Application by roller or brush may require additional coats to achieve

uniform membrane thickness, but material requirements will generally remain the same. Rollers should be medium or long nap. (1/2 or 3/4” are recommended)

4. INSTALLATION

Installation of the ARS-1-FR System is accomplished in five (5) basic steps:

- a. Preparation
- b. Repair
- c. Installation of Reinforcement
- d. Application of Elastomeric Finish Coats
- e. Inspection

(a) Preparation

Acrymax AF-130 coatings must have a clean surface to adhere to. Proper surface preparation is the key to successful applications. All dirt, debris, oils etc. must be removed by the most effective method possible. High-pressure water washing (2500 psi) is the recommended method. Vacuuming, stiff brooming, and low-pressure water washing can also be used if done effectively. When high-pressure water is used it should be done at a pressure suitable to remove 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 or the existing roofing system. When pressure washing is not done and on oxidized asphalt roofs use of AF-127 or an appropriate primer may be required (*consult Acrymax*). Priming is not a substitute for proper cleaning. Surfaces that have been previously coated with aluminized asphalt coatings must be prepared vigorously to insure a stable surface for coatings to adhere to and priming with AF-127 or an asphalt primer should be done as necessary. On alligatored asphalt roof surfaces a coat of AF-9000 Acrylic Modified Asphalt Emulsion should be used as necessary

as a filler coat prior to application of the ARS-1-FR system. Application rates for AF-9000 can range from 1-6 gallons per 100 square feet depending on severity of alligating. Granulated surfaces should be primed with AF-127 Primer applied at the rate of 1 gallon per 250 square feet.

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.

(b) Repair

All necessary repairs must be done according to good construction practices. Acrymax coatings should not be applied over roofing, insulation, or related materials that are saturated with moisture. For applications over existing roof systems a complete inspection must be made, including core cuts and moisture detection scans where necessary, to determine if and where excess moisture exists. Any wet insulation must be replaced with new materials of equal thickness. Acrymax AF-130FR should be used with Poly-1 reinforcement fabric in appropriate widths to repair and reinforce all defective areas in the existing roof surface. Acrymax AF-315 Fibrated Acrylic or Asphalt roof cement should be used to fill all cracks as necessary. It is the applicators responsibility to insure a sound and suitable surface for application of the coating system.

(c) Installation of Reinforcement

Before application of 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 prior to application of coatings.

Field of roof

1. Determine where 1st run of Poly-1 reinforcement fabric will be started. Standard fabric width is 40". On sloped roof surfaces the 1st run of fabric should be run parallel to the low edge of the roof. A chalk line can be used to guide the 1st run of fabric.
2. After positioning fabric to roll out, apply tack coat of Acrymax AF-130FR to surface where Poly-1 is going to be applied. Do not apply AF-130FR too far ahead of fabric or coating may dry before fabric can be embedded. The minimum application rate for the tack coat should be 1 to 1.5 gallons per 100 square feet. Immediately roll Poly-1 reinforcement into wet coating. Care should be taken to lay the fabric tight and contoured to the roof surface without air pockets, wrinkles, fishmouths, etc. A soft bristle push broom, squeegee, or brush can be used to smooth out the fabric.
3. After embedding Poly-1 Reinforcement into tack coat of AF-130FR, apply additional Acrymax AF-130FR to completely saturate the fabric at minimum application rate of 1.5 to 2 gallons per 100 square feet. This saturation coat should be applied as soon as possible after embedding Poly-1 into the tack coat. Allow to dry for a minimum of 24 hours before applying finish coats.
4. Total AF-130FR used to embed and saturate the Poly-1 should be a minimum of 3 gallons per 100 square feet.
5. Apply each successive run of reinforcement as per above while overlapping each run of the Poly-1 fabric a minimum of 3" using the overlap line imprinted on the fabric as a guide. On sloped roofs each subsequent run should be applied parallel to and up the slope of the previously applied fabric.

Flashings, penetrations, transitions, and other detail areas requiring reinforcement

1. Apply liberal tack coat of AF-130FR to area to be reinforced.
2. Embed appropriate width Poly-1 Reinforcement Fabric into this wet coating. Work the fabric into the wet coating using brush, roller, or soft broom so that the fabric is flush and tight to surface without wrinkles, air pockets, or fishmouths.
3. Apply additional Acrymax AF-130FR to completely saturate fabric. Take special care

to ensure that edges of fabric are well adhered and thoroughly saturated.

AF-130FR Basecoat requirements for tack coat and saturation coat per 100 lineal feet of reinforcement are as follows:

Fabric Width	4"	6"	12"	18"	40"
Gallons	1.0	1.5	3.0	4.5	10.0

Note: Special attention should be given to insure complete and adequate coverage at these critical areas.

(d) Application of Finish Coats

Apply Acrymax AF-130FR Finish Coats (two coats minimum) in the color desired to all areas previously reinforced. White is the suggested finish color for energy efficiency and reduced thermal stress on the roof.

1. Apply 1st coat of Acrymax AF-130FR in a uniform manner at minimum application rate of 1 gallon per 100 square feet. Allow to dry.
2. Apply 2nd coat of Acrymax AF-130FR in a uniform manner at minimum application rate of 1 gallon per 100 square feet.

Notes: Each coat of AF-130FR coating should be applied in a perpendicular direction to the previous coat. **Contrasting colors** should be used for each coat. Special attention should be given to coating flashings and any other reinforced detail areas so as to build adequate membrane thickness at these critical areas. When applied by roller it may be difficult to get a uniform finish coating thickness. It may be best when applying by roller to apply additional coats to achieve uniform film thickness. Total material requirements will generally remain the same. In any event all specified material must be applied and minimum membrane thickness achieved.

(e) Inspection

Inspect entire roof area and touch-up deficient areas with additional AF-130FR as necessary to insure complete and uniform coverage. Special attention should be given to critical areas of roof, i.e.: details, roof penetrations, etc.

5. LIMITATIONS

These are general guidelines for application of the Acrymax ARS-1-FR 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 before coating is dry.

6. WARRANTY

Acrymax offers limited material warranties for the ARS-1-FR 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 these limited material warranties are for defective materials and Acrymax's obligation shall not exceed the purchase price of the Acrymax materials proven to be defective. Submittal of required documentation is required for warranty. Consult Acrymax for details. 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 AF-130 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 clean surface to be coated again as necessary.

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. When applying system over a previously applied coating verify that the existing coating is in good condition and well adhered. Failure of a previously applied coating can cause problems with any system that is subsequently applied.
8. 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.
9. Applicator must comply with all applicable local, state, and federal regulations if lead based paint or other hazardous materials are encountered.
10. Roofing is hazardous work and coatings are very slippery when wet. Comply with fall protection rules and regulations.

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