

## **ARS-1-SP INSTALLATION GUIDE**

### **FULLY REINFORCED ELASTOMERIC MEMBRANE SYSTEM**

#### **Single-Ply Roofs**

#### **1. DESCRIPTION**

The Acrymax ARS-1-SP System is a fluid applied reinforced membrane system for recovering existing single-ply membranes including EPDM, Hypalon, and other acceptable materials. Combining multiple coats of waterborne Acrymax AF-130 Series Coatings with high strength polyester reinforcement the ARS-1-SP system cures to a durable, weatherproof, fully reinforced, and fully adhered elastomeric membrane. The ARS-1-SP integrates the existing membrane into a new composite membrane adding redundancy and additional benefits to the overall system. It offers an environmentally responsible method for roofing and weatherproofing applications. The ARS-1-SP system when applied properly will yield a membrane thickness of 45 mils as described herein.

#### **2. MATERIALS**

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

- AF-130BC Basecoat
- AF-130 Finish-coat
- Poly-1 Reinforcement Fabric
- PR-101 Wash Primer
- AF-315 Fibrated Acrylic

#### **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-SP 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 is the recommended method. Low-pressure water washing with vigorous scrubbing can also be used. EPDM roofs must be washed with PR-101 EPDM Wash-Primer as per product instructions. PR-101 is applied to the roof surface with low pressure spray, allowed to stand for 5-15 minutes, and then powerwashed off. On other single-ply roofs washing with PR-101 or water and a solution of TSP or a biodegradable substitute should be done. Powerwashing should be done at 2500 psi or greater. All residues from any cleaner used must be thoroughly rinsed from the surface. When high-pressure water washing is used it should be done in a manner suitable to remove dirt and contaminants without damaging seams in the existing membrane or the substrate that is being cleaned. Care must also be taken to make sure that water does not intrude into the building or the existing roofing system.

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**

Acrymax coatings should not be applied over roofing, insulation, or related materials that are saturated with moisture. All necessary repairs must be done according to good construction practices. For applications over existing roof systems a complete inspection must be made, including core cuts and moisture detection scans where necessary, to determine where excess moisture exists. Any wet insulation must be replaced with new materials of equal thickness. Acrymax AF-130BC should be used with Poly-1 polyester reinforcement fabric in appropriate widths to repair and reinforce all defects, cracks, or other areas requiring reinforcement. 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 1<sup>st</sup> run of Poly-1 reinforcement fabric will be started. Standard fabric width is 40". On sloped roof surfaces the 1<sup>st</sup> run of fabric should be run parallel to the low edge of the roof. A chalk line can be used to guide the 1<sup>st</sup> run of fabric.
2. After positioning fabric to roll out, apply tack coat of Acrymax AF-130BC to surface where Poly-1 is going to be applied. Do not apply AF-130BC 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-130BC, apply additional Acrymax AF-130BC 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-130BC 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-130BC 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-130BC to completely saturate fabric. Take special care to ensure that edges of fabric are well adhered and thoroughly saturated.

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

**Notes:** Each coat of AF-130 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-130 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-SP 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-SP 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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