

This document is intended to provide guidelines for the proper specification and application of Acrymax Coating Systems and Acrymax materials as furnished by Acrymax Technologies Inc. **These guidelines are not project specific and should be modified as required to meet the needs of particular projects.** It is the responsibility of the owner, specifier, and/or applicator to ensure that these guidelines, if used, are consistent with the requirements of the project.

Guideline Specification ACRYMAX ARS-2-M20XT Partially Reinforced Elastomeric Coating System for Metal Roofs 075600 Fluid-Applied Roofing

PART 1 – GENERAL

1.01 SUMMARY

- A. Provide labor and materials necessary to install a fluid applied partially reinforced elastomeric composite roof membrane system.
- B. Section(s) related to this section may include:
 - 1. Flashing and Sheet Metal Division 07 - Section 076000
 - 2. Joint Protection Division 07 - Section 079000
 - 3. Painting and Coating Division 09 - Section 099000

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM) Annual Book of ASTM Standards.
 - 1. D 6083 Standard Specification for Liquid Applied Acrylic Coating Used in Roofing.
 - 2. Volume 04.04 Roofing and Waterproofing
 - 3. Volume 06.01 Paint- Tests for Chemical, Physical, and Optical Properties; Appearance.
- B. National Roofing Contractors Association (NRCA)
 - 1. Roofing and Waterproofing Manual (Current Edition)
- C. Sheet Metal and Air Conditioning National Contractors Association (SMACNA)
 - 1. Architectural Sheet Metal Manual (Current Edition)
- D. Society for Protective Coatings (SSPC)
 - 1. Steel Structures Painting Manual, Volume 2, Systems and Specifications

1.03 SYSTEM DESCRIPTION

- A. Description: The ARS-2-M20XT system is a fluid applied partially reinforced elastomeric coating system. It is designed for weatherproofing and protection of metal panel roofs. This system provides a 20-mil membrane on the field of the roof, and a 45-mil membrane at the reinforced areas. Coatings shall meet or exceed all minimum requirements listed in ASTM D-6083 Standard Specification for Liquid Applied Acrylic Coatings Used in Roofing.

1.04 SUBMITTALS

- A. Submit Acrymax product data sheets and installation instructions.
- B. Verify field measurements and submit materials list, including quantities required to achieve specified membrane thickness. Provide corrugation factor. Provide number and length of seams to be reinforced.
- C. Submit 2 year contractor warranty against leaks and/or defects in workmanship. Warranty shall be signed by an authorized representative of the contractor. Submit Acrymax sample warranty as required.
- D. Submit sample copy of Acrymax warranty.
- E. Submit *Acrymax Application for Warranty Form* indicating acceptance of project for warranty by authorized representative of Acrymax.
- F. Submit Material Safety Data Sheets (MSDS) for coating products to be used.

- G. Submit manufacturers standard color chart, or if special colors, prepare and submit representative samples of each color specified.
- H. Submit copy of Approved Applicator Certificate and/or letter indicating applicator approval issued by manufacturer of coating system.
- I. Submit applicator's completed project reference list.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Applicator shall have proven experience in the installation of work similar to that required for this project.
 - 1. Manufacturer's certification of applicator approval is required for warranty.
- B. Manufacturer Qualifications: The manufacturer shall have manufactured elastomeric acrylic coatings for a minimum of 20 years and shall provide reference list of successful applications.
- C. All details must be installed in conformance with Acrymax Technologies specifications and detail drawings or as specified herein. For conditions not addressed by Acrymax Technologies or these specifications, the reference guides for application and detailing shall be:
 - 1. National Roof Contractors Association - Roofing & Waterproofing Manual - Current Edition.
 - 2. Sheet Metal and Air conditioning Contractors National Association (SMACNA) Architectural Sheet Metal Manual – Current Edition.
- D. Inspections by an authorized representative of Acrymax may be required for warranty. Inspection shall not replace the normal responsibilities of the contracting parties. Request for inspections must be forwarded, along with a roof plan, to Acrymax Technologies prior to start of the project.
- E. Provide all primers, base coats, fabric and accessories as manufactured and/or approved in writing by Acrymax Technologies.
- F. *Acrymax Applicators Daily Log* providing project information and describing weather conditions at times of application of system must be kept by project foreman. This log shall be forwarded to Acrymax upon completion of application.

1.06 DELIVERY, STORAGE AND HANDLING

- A. Furnish Acrymax Coating system materials and component accessories in manufacturer's original containers clearly indicating the Acrymax label and other identifying information including batch number and manufacturing date.
- B. Store materials in a dry location, protected until installation in accordance with Acrymax instructions.
- C. Protect materials against freezing. Store materials between 40°F and 100°F. Protect from extreme heat. Do not store in direct sunlight.

1.07 PROJECT CONDITIONS

- A. Substrate: Prior to starting coating system application work, complete all substrate corrective actions required, including, but not limited to; removal of obsolete roof top equipment, roof penetrations, and replacement of defective substrate, metal panels and/or loose fasteners. Substrate shall be clean, dry, and free of debris.
- B. 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 circumstances minimum dry film thickness must be achieved.
- C. Install drains or take other corrective action to correct or prevent excess ponding water.

1.08 ENVIRONMENTAL CONDITIONS

- A. It is the responsibility of the applicator to determine if present and forecast weather conditions are acceptable for application of Acrymax coatings. Project foreman shall keep a logbook of project weather conditions.
- B. Do not apply Acrymax coatings when snow, rain, fog or freezing temperatures are possible within 24 hours after application of coating or before coating has dried.
- C. Do not apply coatings when the temperature of surfaces to be coated and/or surrounding air temperatures are less than 50°F.
- D. 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.

- E. Do not apply Acrymax coatings when the dew point can be reached before the coatings have sufficiently dried. Special consideration must be given during spring and fall when the dew point temperature can be reached rapidly after sunset. Shortened workdays may be required.
- F. Allow wet surfaces to dry thoroughly and to attain temperature and conditions specified before proceeding with or continuing coating application.
- G. Wind conditions must be considered during application of products. Provide protection of other surfaces. Do not apply coatings by spray if overspray will be deposited on surfaces not intended to be coated.

1.09 SAFETY REQUIREMENTS

- A. Users must familiarize themselves with appropriate Material Safety Data Sheets (MSDS). MSDS 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. A respirator should be used when spraying Acrymax coatings to protect applicators from overspray particles.
- D. When applying reflective white or light color coatings to a roof, sunglasses should be used to protect eyes from glare.
- E. Handle on pails should only be used to carry pail when on ground or roof and must not be used to hoist pail from ground to roof.
- F. Translucent light panels should be clearly marked and safely protected from foot traffic.
- G. All work shall be performed in conformance with the safety procedures outlined in the current FALL PROTECTION GUIDE as published by the Occupational Safety and Health Administration (OSHA).
- H. If hazardous materials such as lead paint or asbestos are encountered notify appropriate personnel and comply with all applicable local, state, and federal regulations.

1.10 WORK SEQUENCE

- A. Sequence of installation is at the Applicator's discretion providing it does not disrupt operations or activities of the occupants of the building.
- B. Schedule and execute work to prevent leaking.

1.11 WARRANTY

- A. Warranty shall be Material Warranty only unless specified otherwise.
(Consult with Acrymax about specific Acrymax warranty requirements and conditions. System Warranty requires pre-approval from Acrymax.)
- B. Furnish applicator warranty with minimum 2 year coverage. The occurrence of leaks caused by defects in workmanship during the covered period will be remedied at no cost to the building owner according to provisions of the applicator warranty.

PART 2 - PRODUCTS

2.01 FLUID APPLIED PARTIALLY REINFORCED MEMBRANE SYSTEM

- A. Manufacturer: Acrymax Technologies Inc. 221 Brooke Street
 - 1. 221 Brooke Street; Media, PA 19063; Telephone (610) 566-7470,; FAX (610) 891-0834; email info@acrymax.com; website <http://www.acrymax.com>
- B. Substitutions: Substitutions if allowed must be approved by specifier before submission of bids.

2.02 MATERIALS

- A. Acrymax ARS-2-M20XT System may include but not be limited to:
 - 1. AF-130BC Elastomeric Basecoat
 - 2. AF-130XT High Strength Elastomeric Coating
 - 3. PC-125 Rust Inhibitive Primer
 - 4. Poly-1 Reinforcement Fabric
 - 5. Poly-6 Self Stick Reinforcement Tape
 - 6. AF-131 Elastomeric Flashing Grade
 - 7. AF-315 Fibrated Mastic Sealer

- B. 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:

a. Liquid Coating Property Requirements

	AF-130BC	AF-130XT	ASTM
Weight Per Gallon	12.1 +/- .3 lbs	11.1 +/- .3 lbs	D1475
Solids by Weight	66.9 +/- 2.0	64.0 +/- 2.0	D1644
Solids by Volume	50.8 +/- .5	51.0 +/- .5	D2697
Viscosity	95 – 115 kU	95- 110 kU	D562

b. Cured Film Typical Physical Properties

	AF-130BC	AF-130XT	ASTM
Low Temp. Flexibility	Pass @ -15° F	pass @ -30° F	D522
Elongation at break	245% @ 74° F	460% @ 74° F	D2370
	130% @ 0° F	100% @ 0° F	D2370
Tensile strength at break	240 psi @ 74° F	670 psi @ 74° F	D2370
	660 psi @ 0° F	2100 psi @ 0° F	D2370
Permeance	<20 perms	<20 perms	D1653
Accelerated weathering	No effect	No effect	D4798
Fungi Resistance	Zero rating	Zero rating	G21

1. Reinforcement Fabric – Stitchbonded polyester for use in cold fluid applied roof membranes that shall provide high strength and good elongation.

a. Poly-1 Fabric (Average typical properties)

	Average	ASTM Standard
Tensile strength	57.1	D-1682
Elongation	61.65%	D-1682

2.03 APPLICATION EQUIPMENT

- A. Acrymax coatings shall be applied by brush, roller, or spray. When applied by spray it is recommended that airless spray be used. Application by roller or brush may require additional coats, but material requirements will generally remain the same. In all cases, the specified minimum membrane thickness must be achieved.

2.04 RELATED MATERIALS

- A. Sealant (*Silicone sealants unacceptable*)
1. Polyurethane
 2. Acrylic
- B. Polyurethane Foam
1. Expanding polyurethane foam of a type suitable for roofing applications.

PART 3 - EXECUTION

3.01 MANUFACTURERS INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, technical bulletins, recommendations, MSDS, and installation instructions.

3.02 EXAMINATION

- A. Examine the substrate, flashing conditions, penetrations, equipment supports, curbs, adjoining construction and the conditions under which the work is to be installed. Do not proceed until all unsatisfactory conditions have been corrected and substrate is acceptable. Applicator shall be responsible for providing a proper substrate to receive the Acrymax coating system.
- B. Verify that all roof drains are clear and in working condition.
- C. Verify that all air intake equipment and air conditioning units are closed or protected during application of coatings.

3.03 PREPARATION

- A. Surfaces to be coated must be sound and free of any contaminants that would interfere with proper adhesion of coatings. All loose rust or loose coatings must be removed by the most appropriate method. Sand blasting, powerwashing, power wire brushing, scraping, or other suitable methods must be used as necessary. Surface preparation should conform to SSPC Standards that are appropriate for the project.
- B. Priming is not a substitute for proper preparation.
- C. Substrate: Prior to starting coating system installation work, complete all substrate corrective actions required, including, but not limited to; removal of obsolete roof top equipment, roof penetrations, and replacement of unsound or damaged metal panels and/or loose fasteners. Cut off high spots and grind smooth as applicable.

3.04 INSTALLATION

- A. Following inspection and acceptance of substrate condition, install the Acrymax ARS-2-M20XT Roof Coating System using minimum coverage's indicated in the manufacturer's guidelines. Adherence to guidelines will yield an average membrane thickness of 20 mils dry film thickness (dft) on the field of roof and 45 mils on the reinforced areas.
- B. **Priming:** Prime roof with PC-125 Rust Inhibitive Primer as necessary. This may include priming entire roof or spot priming select areas. Rusted areas must be properly prepared prior to application of primer. PC-125 shall be applied at the rate of 1 gallon per 200-250 square feet.
- C. **Fasteners:** Tighten or replace all fasteners where necessary. Encapsulate all fastener heads by applying AF-315 Fibrated Acrylic by brush or bulk caulking gun.
- D. **Reinforcement of flashings, roof penetrations and detail work:**
 - 1. All areas to be reinforced must be completed before application of base and finish coats.
 - 2. Apply heavy coat of AF-130BC to the area to be reinforced and embed Poly-1 Reinforcement Fabric into wet coating. Ensure that Poly-1 is fully embedded, conforms to the surface, and is without air pockets or wrinkles.
 - 3. Apply saturation coat of AF-130BC to the top of the reinforcement fabric to completely saturate fabric and provide a weatherproof seal.
 - 4. Total AF-130BC required for embedding and saturating reinforcing fabric shall be not less than 3 gallons per 100 square feet of reinforcement.
- E. **Treatment of Seams**
 - 1. All metal panel seams must be treated as necessary before application of base, intermediate, and finish coats. Consult manufacturer regarding warranty requirements. The following methods shall be used as appropriate:
 - a. Apply heavy coat of AF-130BC to the area to be reinforced, and embed appropriate width Poly-1 Reinforcement Fabric into wet coating. Ensure that Poly-1 is fully embedded, conforms to the surface, and is without air pockets or wrinkles. Apply saturation coat of AF-130BC to the top of the reinforcement fabric to completely saturate fabric and provide a weatherproof seal. Total AF-130BC used shall be not less than 3 gallons per 100 square feet of reinforcement.
 - b. Cut appropriate width Poly-6 Self Stick Reinforcement Tape to desired length, peel off release paper, center over seam, and press firmly into place. Make sure there are no wrinkles or bubbles in applied tape. A metal roller should be used to secure the Poly-6 to the metal deck.
 - c. Apply AF-315 Fibrated Sealer 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.

- F. **Basecoat:** Apply AF-130BC Elastomeric Basecoat to entire prepared roof surface at minimum application rate of 1.25 gallons per 100 square feet. Special attention should be given to all reinforced areas to insure complete coverage. Basecoat color shall be a suitable color to provide contrast to finish coat.
- G. **Finish Coat:** Apply Acrymax AF-130XT in the color specified to areas previously coated at minimum application rate of 1.25 gallons per 100 square feet. Achieve a total average dry film thickness including the previously applied AF-130BC of 20 mils. Applicator shall guarantee proper membrane thickness according to specification.
- H. Minimum total dry film thickness of applied coating system shall be 17 mils.
- I. Material requirements shall take into account the corrugation factor of the roof.
- J. Coatings should be applied in uniform manner and heavy puddles of coating on roof are not acceptable.
- K. Edges of coating application shall be done in an aesthetically acceptable manner.

3.05 FIELD QUALITY REQUIREMENTS

- A. At the start of the installation, periodically as work progresses, and upon final completion provide the services of an Acrymax technical representative for inspections and advice as necessary.
- B. Verify final minimum film thickness as specified. If specified dry film thickness has not been achieved, application of additional coating will be required.
- C. Visually inspect critical areas of the roof including roof transitions, seams and penetrations and touch up with additional Acrymax coatings to insure complete and adequate coverage.
- D. Manufacturer reserves the right to perform post installation testing for conformance to specification. Any areas that do not meet the minimum standards for application as specified herein shall be corrected at the applicator's expense. Manufacturer's inspection shall not constitute acceptance of responsibility for any improper application of materials.

3.06 PROTECTION & CLEANING

- A. Surfaces not intended to receive the Acrymax system should be protected with temporary protection measures during application of the system. At end of project remove this temporary protection and if it has not been effective then all damaged or soiled surfaces must be cleaned, repaired, or replaced to the satisfaction of architect or building owner.
- B. Remove waste, surplus materials and debris resulting from application of the coating system.

END OF SECTION