



07560  
METAL



## METAL ROOF RESTORATION SYSTEM SPECIFICATION

### PART 1: GENERAL

- 1.01 **SCOPE:** To repair and coat the existing metal roof to achieve a watertight roof system, extend the useful life of the roof and reduce cooling costs through the application of a high performance reflective roof coating system.
- 1.02 **SYSTEM DESCRIPTION:** This specification includes metal surface and fastener preparation, surface priming, seam and detail reinforcement and the application of the **MEGAFLEX™** High Performance Elastomeric Roof System. The reflective Cool Roof Finish Coat shall be a labeled **ENERGY STAR® Qualified Roof Product** exceeding **ENERGY STAR®** minimum Solar Reflectance standards and a **Cool Roof Rating Council (CRRC) Rated Product** bearing a CRRC label with the following minimum properties: Initial Solar Reflectance of 80%; Initial Thermal Emittance of .80.
- 1.03 **REFERENCES:**  
**ASTM D 6083** Standard Specification for Liquid Applied Acrylic Coating Used in Roofing; Annual Book of ASTM Standards Section 4, Volume 04.04, Roofing, Waterproofing and Bituminous Materials.
- 1.04 **SUBMITTALS:**  
**A. Product Information:**  
Submit product data and application instruction for each material listed in "PART 2: PRODUCT".  
**B. Samples:** Submit sample of each product as required.
- 1.05 **QUALITY ASSURANCE:**  
**A. Codes and Regulations:** Apply material in accordance with all applicable building codes and regulations and industry safety and environmental regulations.  
**B. Underwriters Laboratories:** The coating product shall have been evaluated by UL and be listed in the Roofing Materials and Systems Directory as having a Class A flame spread rating. The material container shall bear the UL mark.  
**C. Installer Qualifications:** Installer shall have a minimum of two years roofing experience, necessary equipment for application and be a **MEGA Approved Contractor**.
- 1.06 **DELIVERY AND STORAGE:** Deliver clearly labeled materials to the job in the manufacturer's original unopened container. Store the material in a dry location between the temperatures of 50<sup>0</sup> F and 80<sup>0</sup> F.
- 1.07 **PROJECT/SITE CONDITIONS:**  
**A. General:** Do not commence installation if rain is expected within twenty-four (24) hours of application.  
**B. Curing Properties:** **MEGAFLEX** is a rapidly polymerized UV (ultra-violet) radiant curing material. Ensure a minimum of four (4) hours of daylight exist after completion of daily application to allow for proper curing. Coating work should best commence in the morning hours to allow for proper curing but only after dew and condensation have evaporated or been removed.  
**C. Ambient Temperature:** Do not apply if ambient temperature is below, or will fall below, 50<sup>0</sup> F before curing is complete. Do not apply if ambient or surface temperature exceeds 120<sup>0</sup> F as premature drying or skinning over may occur.

### PART 2: PRODUCTS

- 2.00 All materials used in the priming, seam sealing and coating system shall be furnished by MEGA Industries Corporation, Phoenix, AZ.

## 2.01 MATERIALS:

- A. **MEGAFLEX M-100 Cool Roof White Reflective Roof Coating and M-200 Gray Base Coat** are High Performance proprietary water-based, 100% acrylic co-polymer resin formulations to ensure the highest degree of adhesion and water resistance. Refer to physical properties on product data sheet.
- B. **MEGAFLASH™ M-500 Flashing Cement/Seam Sealer**  
A white brush grade material for sealing seams, fasteners, flashings, details, etc. Refer to physical properties on product data sheet
- C. **MEGAFLEX M-800 Metal Primer**  
A low viscosity, material which inhibits rust and provides corrosion resistance. Refer to physical properties on product data sheet
- D. **MEGAFLEX M-600 Reinforcing Fabric**  
A polyester fabric with high elongation and tensile strength which conforms to standing seams and other metal roofing details. Refer to physical properties on product data sheet

## PART 3: EXECUTION

### 3.01 EQUIPMENT:

- A. **Spray Grade Products: M-100 Cool Roof White Coating, M-200 Gray Base Coat and M-800 Metal Primer (NOTE: protect all non-related areas from over spray):**

	<u>M-100 / M-200</u>	<u>M-800</u>
Airless Spray Pump:	2,000 - 3,000 psi	2,000 - 3,000 psi
Gallons per Minute:	1 to 2 GPM	1 GPM
Tip Size (Reversible/Self Cleaning):	.027" - .039"	.015" - .025"
Tip Fan Angle:	Wide-angle	Wide-angle
Hose:	3/8" – 1/2" I.D.	3/8" – 1/2" I.D.

**NOTE:** A 3/4" nap roller or soft nylon bristle brush may also be used for the above products. If brush applied, avoid brush marks and streaking which promote dirt pick-up.

- B. **Other Products/Materials:**

1. **MEGAFLASH M-500 Flashing Cement/Seam Sealer** - Stiff bristle brush.
2. **MEGAFLEX M-600 Reinforcing Fabric** – By hand. Scissors and sharp utility knife.
3. 3,000 psi power pressure washer with oscillating tip and a water source

### 3.02: Pre-Application Inspection

Prior to application, inspect the metal roof surface and detail areas to be treated with the **MEGAFLEX** restoration system for the following:

- A. **Metal Panels:** Locate and mark all damaged metal panels which must be replaced.
- B. **Slope:** Ensure the roof has a positive slope to drain.
- C. **Standing Water:** Locate and mark all areas which pond water in excess of 48 hours.
- D. **Foreign Materials:** **MEGAFLEX** products will not adhere to certain materials, such as; silicone, glazed tile and ceramic coatings. For Kynar® finished panels, aluminum coated or previously coated surfaces contact the manufacturer for recommendations. For questionable surfaces, install a test patch of coating, or primer and coating, to determine acceptable adhesion or contact the manufacturer for recommendations.

### 3.03: SURFACE PREPARATION

- A. **Damaged Panels:** Replace all damaged or severely rusted panels and curbs which can not be repaired. New panels must be etched with an appropriate solution to ensure coating adhesion before proceeding.

- B. **Standing Water:** Take corrective action in all area where standing water exists. "Corrective action" includes the elimination of standing water with the use of crickets, drains and/or other corrective procedures.
- C. **Voids:** All large or excessive gaps and voids between roof panel laps, seams, details, etc. must be closed or made flush with self-tapping screws. Sponge foam strips, backer rods or urethane foam may be used to fill voids ¼" or larger before proceeding.
- D. **Fasteners:** Tighten all fasteners. Replace all missing, rusted and defective fasteners using over-sized stainless steel fasteners with neoprene washers.
- E. **Rust Removal:** Remove all scaled rust down to the bare metal using a power or hand held wire brush. Severely rusted panels must be replaced.
- F. **Pressure Wash:** All surfaces to be coated and flashed must be power washed. A minimum working pressure of 3,000 psi is required. Use a mild detergent and water mixture to remove all dust, dirt, debris, loose rust, oil/solvent based roof cements, asphalt, mildew, loose existing coatings, etc. Chlorine bleach should be added to the mixture to eliminate excessive mildew and algae. An oscillating spray tip is most effective. Rinse surface thoroughly with clean water and allow to dry before proceeding. Clean up the roof slope and rinse down the roof slope.
- G. **Primer Application:** Apply **M-800 Metal Primer** to all previously rusted areas at the minimum rate of .50 gallons per square (100 sf). Apply additional **M-800** as needed to fully encapsulate residual rust.

### 3.04: APPLICATION

#### A. Flashings/Details:

1. **Fastener Sealing:** Fully encapsulate all exposed fasteners with of **M-500 Seam Sealer**. When complete, fastener outlines should not be visible.
  2. **Horizontal Seams:** Apply **M-500 Seam Sealer** in an even thickness of 1/16" by 10" wide centered over the horizontal seam. Feather at edges. One gallon will cover 25 lineal feet at this application rate. Immediately embed and brush-in 6" wide **M-600** polyester ensuring **the fabric is not stretched and is wrinkle free**. Cut all polyester tents and wrinkles to lay flat. Apply a second coat of **M-500** at the above rate, again extending 2" beyond each edge of the fabric. Feather at edges. Allow to dry 16 to 24 hours and inspect for voids, wrinkles, fishmouths, etc. Cut fabric to lay flat and re-coat these areas and allow to dry 16 to 24 hours before coating application. **NOTE:** Horizontal seam gaps in excess of 1/16" must be closed prior to the M-500 application. Install self-tapping stainless steel fasteners with neoprene washers every 2" to 3" on center and 1" to 1-1/2" up from the seam. For most horizontal seams fastened in the above pattern use M-500 and polyester fabric treatment. Allow to dry for 16 to 24 hours then apply M-700 .
  3. **Vertical Seams:** Apply **M-500 Seam Sealer** in an even thickness of 1/16" by 4" centered over the vertical seams. Brush back against seam until no longer visible. One gallon will cover 75 lineal at this application rate. If the vertical seam is deteriorated, install 6" wide **M-600 Reinforcing Fabric** in the same application method as described for horizontal seams. Sealing vertical seams in good condition on standing seam roofs is not required.
  4. **Flashing Details:** Using 6" wide **M-600 Reinforcing Fabric**, flash all penetrations, curbs, rakes, ridge caps, skylights, etc. Apply **M-500 Seam Sealer** in an even thickness of 1/16" extending 2" beyond each edge of the fabric. On vertical transitions, extend the seam sealer 5" up the vertical surface. Feather at edges. The edge of the fabric must extend 3" up the vertical surface. Immediately embed and brush-in 6" wide **M-600** ensuring the fabric is not stretched and is wrinkle free. Cut all polyester tents and wrinkles to lay flat. Apply a second coat of **M-500** extending 2" beyond each edge of the fabric. Feather at edges. Ridge caps with voids must be filled with sponge foam strips, backer rods or urethane foam prior to the application of seam sealer and reinforcing fabric.
  5. **Dry Time:** Allow **M-500 Flashing Cement** to dry 16 to 24 hours before coating application.
- B. **Base Coat:** Apply **M-200 Gray Base Coat evenly** at a 90<sup>0</sup> angle (perpendicular) to the vertical seams of the metal roof at a rate of 1.0 gallons per square (100 sf). Allow the Base Coat to dry and inspect for flaws and insufficient coating thickness, etc. Re-coat these areas. Allow the Base Coat to thoroughly dry for 24 hours before application of the Finish Coat.
  - C. **Finish Coat:** Inspect the entire roof surface prior to applying the Finish Coat. Remove all debris which will inhibit adhesion of the Finish Coat. Apply **M-100 Cool Roof White Reflective Elastomeric Roof Coating** evenly at a rate of 1.0 gallons per square (100 sf) at a 90<sup>0</sup> angle to

the Base Coat (or parallel to the vertical seams). Allow the Finish Coat to dry for 24 hours and inspect roof for flaws and insufficient coating thickness, etc. Re-coat these areas. Allow the Finish Coat to dry for 24 hours. Then, complete the final inspection. No seams should be visible. Take corrective action as required.

- D. Clean Up:** Clean all brushes and spray equipment with soap and water solution while still wet. Clean all equipment at the end of each day and when changing products.
- E. Maintenance:** In line with good roof maintenance practices, the roof system should be inspected in spring and fall for existing or potential problems. The reflective coating should be cleaned every two years with a low pressure power washer to maintain maximum reflectivity.

Energy savings from installation of an ENERGY STAR® Roof Product are climate specific and vary by building. The greatest savings will occur in buildings located in hot and sunny climates that have a high roof surface to building volume ratio, and lower levels of attic and/or roof insulation.

**MEGA Industries Corporation is an ENERGY STAR® Roof Products Partner and a Charter Member of the COOL ROOF RATING COUNCIL.**



**MEGA Industries Corporation**  
**Phone: (800) 772-7205**

**PO Box 551303**  
**FAX: (602) 381-9907**

**Phoenix, AZ 85068**  
**[www.coolroof.com](http://www.coolroof.com)**