# Application Guideline
## MET-A-GARD ROOF RESTORATION SYSTEM OVER METAL

To ensure warranty eligibility, each job must be approved by American WeatherStar before it begins.

## PART 1 - GENERAL

### 1.01 DESCRIPTION

A. The intention of this guideline is to outline the procedures for the application of American WeatherStar reflective roof coatings for the purpose of coating **METAL ROOF SURFACES.** These suggested guidelines describe materials, methods, and conditions necessary for the proper application of the American WeatherStar roof coating system. Actual application requirements may vary and are the responsibility of the contractor.

B. This guideline may not outline all procedures for preparation and finishing of penetrations, drains, flashings, etc. This work should be outlined separately by the contractor before the work commences and shall be performed observing good trade practices.

### 1.02 APPROVED APPLICATOR

All American WeatherStar products shall be applied by a single, experienced, and competent contractor approved by American WeatherStar.

## PART 2 - PRODUCTS

### 2.01 COATINGS AND RELATED MATERIALS

All materials used shall be manufactured by and or approved by American WeatherStar and shall meet the following specifications:

### 2.02 ELASTOMERIC COATING SYSTEM

**ACRYLIC 211**
Type: Solar reflective coating
Viscosity: 4500 cps
Elongation: 233 ± 20%
Tensile strength: 273 ± 20 psi
Volume solids: 55 ± 2%
Color: White, gray, tan

**ACRYLIC BUTTER-GRADE 221**
Type: Flashing grade, brushable caulk
Viscosity: 90,000 cps ± 10,000 cps
Elongation: 200%
Tensile strength: 325 psi
Volume solids: 66% ± 3%
Color: White

**RED OXIDE RUST PRIME 912**
Type: Rust primer/pre-treatment
Viscosity: 600-800 cps
Elongation: N/A
Tensile strength: N/A
Volume solids: 40% ± 1%
Color: Red

**ACRYLIC BRUSH-GRADE 220**
Type: High-solids elastomeric sealant
Viscosity: 70,000 ± 10,000 cps
Elongation: 315%
Tensile strength: 500 psi
Volume solids: 55% ± 3%
Color: White

**POLYESTER FABRIC**
Type: Spun-bound polyester
Viscosity: N/A
Tensile strength: 35 psi

**ECOCLEANER 925**
Type: Surface Cleaner
VOC: 0 grams/liter
Color: Clear

### 2.03 DELIVERY AND STORAGE

A. Materials shall be delivered in their original tightly-sealed containers or unopened packages, all clearly labeled with the manufacturer's name, file number, and batch numbers.

B. Materials shall be stored out of the weather in their original tightly-sealed containers or unopened containers as recommended by the manufacturer.

### 2.04 WARRANTY

A. American WeatherStar warrants that the material supplied will meet or exceed physical properties as published. The contractor guarantees that workmanship will be free of defects in coating application. Since performance of existing roof substrate or previously applied coatings are beyond the control of American WeatherStar or the contractor, requests for additional warranty coverage shall be subject to prior approval by American WeatherStar.

B. Metal roof panels must be attached using the appropriate gasketed threaded fasteners installed directly into metal purlins to qualify for an NDL Warranty.

C. Any panel attachment into wood substrates, or any attachment utilizing nails or non-approved fastening methods, will not be eligible for an NDL warranty coverage.

*Note: Material Warranty ONLY for non-approved fastening methods (Nails, Screws and Wood Purlins) that are expressly accepted by American Weatherstar Technical Services*

D. Comply with manufacturer's warranty application procedures. A Pre-Project Inspection Report should be submitted and approved prior to job commencement.

## PART 3 - INSTALLATION

### 3.01 SURFACE PREPARATION

A. Preparation shall include all requirements specified by American WeatherStar to ensure proper adhesion of the American WeatherStar products to the substrate. (An adhesion test may be necessary.)

B. New galvanized metal surfaces must be allowed to cure a minimum of 90 days prior to application or treated with surface conditioner approved by American WeatherStar.

C. Thoroughly inspect roof for signs of rust degradation to include the underside of panels if possible. Hidden rust between panels or on the underside of the roof cannot be mitigated with the installation of a coating system.

D. Preparation shall include, but not be limited to, the following:

1. All unnecessary and non-functional equipment and debris shall be removed from the roof.
2. Substrate must be pressure-washed (**ECOCLEANER 925** is recommended). A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, any previous paints or coatings which are delaminating, as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc.).
3. Roto-spray tip is recommended to expedite metal panel cleaning. Power vacuuming, brooming, high-pressure air, hot water washing or any combination that assures a clean surface may be used.
4. HVAC condensate drains shall be properly routed to roof drains or plumbed off the roof.
5. All roof penetrations, curbs, vent stacks, laps, wall flashings, and related roof penetrations are to be flashed in accordance with roof manufacturer’s specifications.
6. Contractor shall make every effort to mechanically eliminate all ponding water areas on the roof surface prior to application of any roof-coating product.

### 3.02 PRIMER APPLICATION

A. Examine substrate to receive roof coating. Do not proceed with installation of the American WeatherStar roof coating until all problem areas have been corrected in a manner acceptable to the manufacturer.

B. Treatment of Residual Asphalt: Installer shall make every effort to remove all loosely adhered asphaltic roofing elements. Removal efforts must include the use of pressure-washers, scrapers, wire brushes, wire-wheels, or other similar tools.

C. Rust: All areas with any rust must be primed with **RED OXIDE RUST PRIME 912** at an approximate rate of 1 gallon per 100-200 square feet depending on severity of rust.

D. Factory Paint and/or Previously Coated: All areas of roof that have been factory painted and/or previously coated should be primed with **RED OXIDE RUST PRIME 912** at a rate of 1 gallon per 200 square feet. An adhesion test should be conducted to ensure proper adhesion to the existing paint. Adhesion to the existing roof substrate depends on the condition of any existing coating.

**Note:** It is the applicator's responsibility to ensure proper application and mil thickness to adequately encapsulate remaining rust prior to application of base coat. Application rates above may require multiple passes to achieve adequate coverage. Please contact AWS for technical support with specific conditions.

## 3.03 PREPARATION FOR COATING

A. Curb Flashings: All curb flashings, including cricket details, must be flashed with at least a 6" wide layer of **ACRYLIC BUTTER-GRADE 221.** (Min 50 mils DFT)

B. Fasteners: All fasteners must be re-tightened; all stripped fasteners must be replaced with larger diameter fasteners, and the area re-secured by adding a new fastener next to the one that was stripped. All missing fasteners must be replaced. Encapsulate all fasteners with **ACRYLIC BUTTER-GRADE 221** or **ACRYLIC BRUSH-GRADE 220.**

C. Gutter straps fastened above roof panels must be totally encapsulated with **ACRYLIC BUTTER-GRADE 221.**

D. Gaps: All large or excessive gaps existing between roof panels must be closed or made flush with self-drilling fasteners.

E. Horizontal Seams:

1. Apply a 4" wide layer of **ACRYLIC BUTTER-GRADE 221.** (Min 30 mils DFT)
2. Extra fasteners may be necessary to properly tighten seams before any application of flashing grade material.

F. Vertical Seams:

1. Reinforce all vertical seams: Apply a 2" wide layer of **ACRYLIC BUTTER-GRADE 221** or **ACRYLIC BRUSH-GRADE 220.** (Min 25 mils DFT)
2. Standing Seam: All vertical seams should be thoroughly checked to make sure they are properly seamed. If loose seams are found the installer should follow original panel manufacturer's instructions to ensure proper installation of metal.

G. Penetrations: **ACRYLIC BUTTER-GRADE 221** shall be applied around base of penetration extending 4" on vertical and 4" on base. (Min 30 mils DFT)

H. Rakes: All fixed rake details for the roof must be secured and sealed with 4" wide layer of **ACRYLIC BUTTER-GRADE 221.** Extra fasteners may need to be added before detail is applied to ensure a watertight rake. (Min 30 mils DFT)

I. Ridge Caps: Except as noted, all ridge caps must be flashed with a 4" wide layer of **ACRYLIC BUTTER-GRADE 221.** Extra fasteners may need to be added before detail is applied to ensure a watertight ridge cap. (Min 30 mils DFT)

**Note:** On details listed above (A-I), the following may be substituted as an alternative to using **ACRYLIC BUTTER-GRADE 221.**

J. Three Course Detail (Except detail B and F above)

1. A 6" wide layer of **ACRYLIC 211**
2. One (1) layer of 4" **POLYESTER FABRIC**
3. A final layer of **ACRYLIC 211** that completely encapsulates the **POLYESTER FABRIC**

4. **ACRYLIC 211** must be feathered at least 3" beyond each side of the **POLYESTER FABRIC** to allow water to flow over the seam.

## 3.04 APPLICATION RATES

A. **5 Year System Requirement (12 mil Met-A-Gard System)**

1. **Base Coat:** Apply base coat of **ACRYLIC 211** roof coating at a rate of .75 gallon per 100 square feet.
2. **Top Coat:** Apply top coat of **ACRYLIC 211** roof coating at a rate of .75 gallon per 100 square feet.

B. **10 Year System Requirement (15 mil Met-A-Gard System)**

1. **Base Coat:** Apply base coat of **ACRYLIC 211** roof coating at a rate of 1 gallon per 100 square feet.
2. **Top Coat:** Apply intermediate coat of **ACRYLIC 211** roof coating at a rate of 1 gallon per 100 square feet.

C. Dark tints, including dark gray, absorb more solar heat and can cause heat blisters when applied too heavy or onto a hot surface. Apply tinted coats at half the application rate listed above, and add coats as needed to reach the total gallons per 100 sq ft required for the warranty term. Do not apply when the roof surface exceeds 110°F, measured with an infrared thermometer, or in direct midday sun; apply tinted coats in the cooler part of the day. Make sure the substrate is clean, dry, and primed (if necessary), since trapped moisture will vent through the coating as the surface heats up.

D. Base coat shall be applied parallel to the ribs of the metal panel from one direction.

E. Finish coat shall be applied parallel to the ribs of the metal panel from the opposite direction of the base coat.

F. Each coat must be allowed to dry for 24-48 hours depending on humidity and temperature. The roof is to be inspected for defects, flaws or holidays and repaired if necessary.

G. Each contractor should estimate coating requirements based on actual experience and needs to figure in losses due to applicator experience, surface texture, wind, waste, and other factors that can affect actual gallons required.

H. It is the applicator's responsibility to verify wet and dry mil thickness during the application process to ensure proper dry mil thickness of the total roofing system.

**Note:** A stretch factor of 15% should be used as an average to determine actual metal square footage. Please refer to the American WeatherStar Metal Roof Estimating Guide for more details.

## 3.05 RESTRICTIONS/LIMITATIONS

This system is to be used only in conjunction with commonly accepted roofing standards but not limited to the following:

A. No application of materials shall commence during inclement weather or when precipitation is imminent.

B. No materials are to be applied to wet, dirty, or frozen surfaces.

C. In conjunction with the final inspection, all debris, containers, materials and equipment are to be properly removed from the job site. Grounds are to be cleaned, undamaged, and acceptable to the owner.

D. Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.

E. **SKYLIGHT PANELS** shall not be coated to obscure visual detection of panels. Panels shall only be coated using **ACRYLIC SKYLIGHT SEALER 230.**

**Caution:** Do not apply within two hours of sunset, rain, fog or freezing temperatures. The American WeatherStar roof coating system must be completely dry before exposing to water or foot traffic. Keep American WeatherStar containers covered when not in use. Dispose of all containers in accordance with state and local environmental regulations. Keep away from children. If ingested, DO NOT induce vomiting. Call physician immediately.