



Application Guideline

ENVIR-O-SIL ROOF RESTORATION SYSTEM OVER SMOOTH & GRAVEL BUR

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 **SMOOTH AND GRAVEL BUILT-UP ROOF SURFACE**. 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

SILICONE BRUSH GRADE 422

Type: Silicone flashing material
Elongation: >275% at 73°F
Tensile strength: 130 psi at 73°F
Volume solids: 96% ± 3%
Color: White

HIGH SOLIDS SILICONE 412

Type: UV resistant elastomeric
Elongation: 170% ± 25%
Tensile strength: 450 psi ± 50 psi
Volume solids: 92% ± 2%
Color: White, gray, and tan

ACRYLIC BONDING PRIMER 905

Type: Primer/surface conditioner
Viscosity: 600-800 cps
Elongation: N/A
Tensile strength: N/A
Volume solids: 38% ± 2%
Color: Black

NON-FIBERED ASPHALT EMULSION

Type: Cold Applied Roof Surface Leveler
Viscosity: 8,000-15,000 cps
Volume solids: 51% ± 2%
Color: Black

ECOCLEANER 925

Type: Surface Cleaner
VOC: 0 grams/liter
Color: Clear

POLYESTER FABRIC

Type: Spunbound polyester
Viscosity: N/A
Tensile strength: 35 psi

TERMINATOR 622

Type: Siliconized urethane sealant
Volume solids: 100%
Color: White, gray

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.



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- 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. 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. 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. Gravel Built-Up Roofs shall require all gravel to be spudded and removed from the roof.
 - 2. Substrate must be pressure-washed. A minimum working pressure of 3,000 psi shall be used to remove all dirt, dust, any previous paints or coatings that are delaminating, as well as waste products (oil, oil-based roof cements, solvents, grease, animal fats, etc.). Use **ECOCLEANER 925** if necessary to remove all contaminates. Contact American WeatherStar for additional information.
 - 3. HVAC condensate drains shall be properly routed to roof drains or plumbed off the roof.
 - 4. Wet roof insulation and damaged membranes are to be removed and replaced as necessary to match existing specified material.
 - 5. All roof penetrations, curbs, vent stacks and related roof penetrations are to be flashed in accordance with roof manufacturer's specifications.
 - 6. All laps and wall flashings are to be repaired in accordance with roof manufacturer's specifications.
 - 7. 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 FLOOD COAT AND 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. **Smooth Built-Up Roofs** with areas of moderate to severe alligating
 - 1. Apply **NON-FIBERED ASPHALT EMULSION** at a rate of up to 4 gallons per 100 square feet or until a smooth surface is achieved.
 - 2. Allow emulsion to fully dry for a minimum of 48 hours before proceeding with system installation.



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- C. **Gravel Built-Up Roofs** after all gravel has been spudded and removed
1. Apply a foundation coat of **NON-FIBERED ASPHALT EMULSION** at a rate of 4 gallons per 100 square feet in multiple passes until a smooth surface is achieved.
 2. Allow emulsion to dry 1 – 7 days between each pass.
 3. After the final application allow emulsion to fully dry 7 – 14 days before proceeding with system installation.

Note: Non-Fibered Asphalt Emulsion is a water-based product. Temperature, humidity, precipitation, and application rates will all affect dry times. Asphalt emulsion may experience mud cracking when applied to heavy. Please call American Weatherstar for assistance if needed.

- D. Entire roof shall be primed with **ACRYLIC BONDING PRIMER 905** at a rate of 1 gallon per 100 square feet.
- E. Previously Coated: An adhesion test should be conducted to ensure proper adhesion to the existing coating. Adhesion to the existing roof substrate depends on the condition of any existing coating.

3.03 PREPARATION FOR COATING

- A. All seams, penetrations, curbs, and parapet wall details are to be flashed using **TERMINATOR 622**.
1. **Seams:** Apply a layer of **TERMINATOR 622** into each seam. (Min 30 mils DFT)
 - a. Apply **TERMINATOR 622** at a rate of 30 wet mils.
 - b. Application shall be a minimum of 3" wide over the seam and feathered on to the existing roof membrane.
 2. **Penetrations:** Apply **TERMINATOR 622** at a rate of 60 wet mils. (Min 60 mils DFT)
 - a. Application shall encapsulate the area around the penetration.
 - b. Application shall extend a minimum of 3" on to the existing roof membrane.
 - c. Feather the application so as to not cause water damming.
 3. **Parapet Walls:** Apply **TERMINATOR 622** to all seams and flashings on parapet walls.
 - a. **Seams:** Apply a layer of **TERMINATOR 622** into each seam. (Min 30 mils DFT)
 1. Apply **TERMINATOR 622** at a rate of 30 wet mils.
 2. Application shall be a minimum of 3" wide over the seam.
 - b. **Flashings:** Apply a layer of **TERMINATOR 622** at flashing points. (Min 60 mils DFT)
 1. Apply **TERMINATOR 622** as required to seal any existing flashings at a rate of 60 wet mils.
 2. Application should be made to insure water tightness of the flashing detail.
- B. Repair all cracks and splits in roof using **TERMINATOR 622** in the same manner as each seam is repaired.
1. Cracks or splits less than ¼"
 - a. Apply a layer of **TERMINATOR 622** into each crack or split.
 - b. Application shall extend a minimum of 3" wide over the crack and feathered on to the existing roof membrane.
 2. Cracks or splits greater than ¼"
 - a. Apply a layer of **TERMINATOR 622** into each crack or split.
 - b. Application shall extend a minimum of 3" wide over the crack and feathered on to the existing roof membrane.



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- c. Once crack is filled and leveled with existing roofing membrane, apply suitable width **POLYESTER FABRIC** as to extend 2" on either side of the crack.
 - d. Once fabric is embedded, encapsulate with **TERMINATOR 622**.
3. If cracks predominate the existing roofing membrane, an AWS Full Fabric System may be required.

Note: **TERMINATOR 622** can be substituted with **SILICONE BRUSH GRADE 422**.

3.04 APPLICATION RATES

Note: If coating is being applied with spray equipment or Super Spreader, back-roll base coat material in order to penetrate existing system.

A. 10 Year System Requirement (30 mil Envir-O-Sil System)

1. **Base Coat:** Apply a base coat of the **HIGH SOLIDS SILICONE 412** at 1.1 gallons per one hundred square feet.
2. **Top Coat:** Apply a top coat of **HIGH SOLIDS SILICONE 412** at a rate of 1.1 gallons per one hundred square feet.

B. 15 Year System Requirement (35 mil Envir-O-Sil System)

1. **Base Coat:** Apply a base coat of the **HIGH SOLIDS SILICONE 412** at 1.25 gallons per one hundred square feet.
2. **Top Coat:** Apply a top coat of **HIGH SOLIDS SILICONE 412** at a rate of 1.25 gallons per one hundred square feet.

C. 20 Year System Requirement (40 mil Envir-O-Sil System)

1. **Base Coat:** Apply a base coat of the **HIGH SOLIDS SILICONE 412** at 1.5 gallons per one hundred square feet.
2. **Top Coat:** Apply a top coat of **HIGH SOLIDS SILICONE 412** at a rate of 1.5 gallons per one hundred square feet.

Note: A single coat of **HIGH SOLIDS SILICONE 412** is permissible given the required dry film thickness is achieved for the respective term length.

- D. 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.
- E. 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.
- F. 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.

3.05 PONDING

- A. Known ponding water areas are to be repaired using commonly acceptable roofing practices so as to allow proper drainage of roof area.
- B. Ponding water areas are a sign of possible mechanical failure in the roof.
- C. In known ponding areas where water stands for more than 72 hours, add an additional 1.5 gallons per 100 square feet of **HIGH SOLIDS SILICONE 412** extending 2 feet beyond the ponded area.
- D. Ponding water is NOT excluded from the warranty of the **ENVIR-O-SIL** Roofing System when properly installed by an American WeatherStar Approved Contractor.



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3.06 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 thinning of materials is permitted.
- C. No materials are to be applied to wet, dirty, or frozen surfaces.
- D. 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.
- E. Reflectivity of coatings may be reduced if roof surface is not cleaned on a regularly scheduled basis.

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.