

APPLICATION GUIDELINES

SILVER REFLECTIVE COATING SYSTEM

Substrates:

Smooth BUR
Smooth Mod. Bit.
Granular Mod. Bit.

Mastic Type:

229AR-Elastomeric
Trowel Grade

Base Coat:

220 Emulsion Roof
Coating

Reinforcement:

5540 Resat-Mat

Finish Coat:

298 Alumin-R

The following KARNAK Roof Restoration System is intended to be applied over sound, dry, existing smooth built-up asphalt and smooth or granular modified bitumen or granular cap sheet roofing systems with positive drainage.

BENEFITS & ADVANTAGES:

- Tough, flexible elastic, rubber-like film.
- Excellent adhesion to clean asphalt surfaces.
- 298 Alumin-R - Energy Star® listed reflective coating reduces energy consumption by lowering air conditioning requirements.
- Can provide an energy savings “payback” based on building design, energy consumption needs and insulation levels.
- Application causes no disruption of activities inside building.
- Avoids roof replacement and adds life to the existing roof system.
- Reflective coating prevents harmful UV rays from prematurely cracking or drying out the roofing system.
- Reinforced 220 Emulsion Roof Coating provides additional asphalt protection over worn areas exhibiting checking and alligating, to provide a firm base to receive reflective top coating.

PART 1 – MATERIALS

- 1.1 **799 Wash-N-Prep:** Concentrated liquid TSP substitute specifically designed to clean roof surfaces prior to applying coatings.
- 1.2 **229AR-Elastomeric Trowel Grade:** A single component, SBS rubber reinforced asphalt mastic for sealing and repairing flashings, curbs, fasteners, penetrations and general repairs to all types of asphalt roofs.
- 1.3 **5540 Resat-Mat:** Spunlaced polyester fabric for reinforcing mastics and coatings over irregular, rough surfaces as well as smooth surfaces.
- 1.4 **220 Emulsion Roof Coating:** Manufactured with refined asphalt, bentonite clay, emulsifiers and fibers for protecting asphalt weathered and alligatored surfaces.
- 1.5 **298 Alumin-R:** A premium grade, single component, SBS rubber modified asphalt reflective coating exhibiting outstanding color stability and weatherability.

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PART 2 – APPLICATION:

2.1 General:

- A. Read all applicable product data sheets and SDS for appropriate application and preparation guidelines.
- B. All roof surfaces to be coated should be sound, clean, dry and free of dirt, grease, oil, dust, debris and loose granules. Do not apply over brittle roof surfaces.
- C. It is highly recommended that a moisture survey be conducted. If 20% or more of the roof is considered wet this coating system should not be installed. Other reroofing options should be considered. If wet areas encompass less than 20%, all wet insulation and roofing materials should be removed and replaced with like materials prior to coating application. New cold-applied modified bitumen roofs should weather 90-180 days before installing coating system. New BUR roofs should also age 90-180 days unless special considerations are taken.
- D. Adhesion of the coatings should be tested over all applicable roof surfaces prior to the system application.

2.2 Preparation:

- A. Repair all cracks, splits, holes and large blisters with 229AR-Elastomeric Trowel Grade and 5540 Resat-Mat in a three-course application. Seal all other defective areas that may affect the waterproofing integrity of the existing roof system.
- B. Cut away low hanging branches and vegetation that extend onto the roof.
- C. Power-wash all surfaces to be coated with 799 Wash-N-Prep Roof Cleaner and water maintaining a minimum of 2000 psi. Take all necessary precautions to avoid damage to the roof system when power washing.
 - a. Dilute 799 Wash-N-Prep with water at a 16:1 ratio for normal cleaning.
 - b. Apply diluted cleaning agent directly to the roof surface with a Hudson-type sprayer or using a stiff nylon brush by dipping the brush into a bucket of diluted cleaner. Cleaner may also be added in full strength to the detergent reservoir for injection dilution at a 16:1 ratio.
 - c. Rinse all surfaces thoroughly with a heavy duty power washer using clean water to completely remove all residues. Do not allow dirty solution to pool on the roof and dry.

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- d. Allow the roof to completely dry before applying KARNAK coating products.

2.3 Repairs:

- A. Seal and repair all base flashings, roof penetrations, drains, cracks, holes, large blisters and splits with 229AR-Elastomeric Trowel Grade and 5540 Resat-Mat prior to applying coatings.
 - a. Apply 229AR-Elastomeric Trowel Grade in a 1/8" thickness by 8" width directly over the area to repair with a trowel or 6" wide stiff brush.
 - b. While still wet, immediately embed 6" wide Resat-Mat into the wet 229AR-Elastomeric Trowel Grade.
 - c. Immediately apply an additional 1/8" thick by 8" wide application of 229AR-Elastomeric Trowel Grade over the embedded Resat-Mat to completely cover the fabric, feathering the 229AR-Elastomeric Trowel out to the roof surface. No fabric should be visible.
 - d. Total coverage of 229AR-Elastomeric Trowel Grade in this application is approximately 18 lineal feet per gallon.
 - e. Allow 229AR-Elastomeric Trowel Grade to cure 24-48 hours before application of the subsequent finish coating.

2.4 Reinforced Base Coat Application:

- A. Application of the base coat should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- B. Mechanically mix 220 Emulsion Roof Coating to overcome any settling that may occur. Mix the product to a monolithic consistency.
- C. Starting at the low end of the roof, apply one coat of 220 Emulsion Roof Coating at the rate of 3 gallons per 100 sq.ft. with a wide fiber roof brush. Apply in a width of approximately 44" inches wide and extending out onto the roof about 10' feet.
- D. For ease of application, pour an amount onto the roof then spread coating with wide fiber roof brush. Brush coating into all cracks, crevices and alligatoring.
- E. Immediately embed one ply of 40" inch width 5540 Resat-Mat into the wet coating. Brush fabric into the 220 Emulsion Roof Coating with either a broom, roof brush or roller to fully saturate the fabric. Make sure there are no wrinkle or fishmouths in the fabric.
- F. Continue with the application of 220 Emulsion Roof Coating and 5540 Resat-Mat. Make sure to fully saturate side laps and end

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laps of the fabric. Side laps should overlap 2" inches and end laps 6" inches.

- G. Install 5540 Resat-Mat a minimum of 6" inches above cants and penetrations.
- H. Cover the installed fabric with a second coat of 220 Fibered Emulsion Roof Coating at the rate of 3 gallons per 100 sq.ft.
- I. Apply 220 Emulsion Roof Coating up adjacent parapet walls and flashings at the rate of 3 gallons per 100 sq.ft.
- J. Allow 220 Emulsion Roof Coating to cure for a minimum of 7-10 days before the application of subsequent coatings. Cooler weather will require additional curing time.

2.5 Finish Coat Application:

- A. Application of 298 Alumin-R should take place when temperatures are 50°F-100°F and humidity levels are 85% or less. The best curing takes place when coating is applied during intermittent or full sun exposure.
- B. Mechanically mix 298 Alumin-R for several minutes just prior to using.
- C. Starting at one end of the roof, apply one coat of 298 Alumin-R at the rate of 2 gallons per 100 sq.ft. with a ¾" medium nap roller or heavy-duty airless spray equipment.
- D. If applying by roller, pour an amount to cover a given area directly onto the roof surface then roll coating in one direction. Do not overwork the coating.
- E. If spraying, apply with a 50% overlap following the same direction to assure proper coverage.
- F. Don't overwork the coating or attempt "touch-ups" while the coating is still wet.
- G. Aluminum coating must be allowed to cure 24-48 hours before exposure to moisture of any type.

2.6 Material List & Coverage Rates:

Note: The below listed coverage rates are for estimating purposes only. Actual amounts may vary depending upon the irregularity and porosity of the roof surface, measurements taken and applicator installation.

- A. **799 Wash-N-Prep:** 1 quart per 1,600 sq. ft.
- B. **229AR-Elastomeric Trowel:** 18 lineal feet per gallon
- C. **5540 Resat-Mat:**
 - Repair: 6" x 300' per roll
 - Base coat reinforcement: 40" x 324' per roll
- D. **220 Fibered Emulsion Roof Coating:** 6 gal. per 100 sq. ft.
- E. **298 Alumin-R:** 2 gal. per 100 sq. ft.

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This specification is based upon information and/or pictures provided to us by the applicator/contractor. KARNAK has not inspected the roof or independently verified any of the information provided. KARNAK is relying solely on the applicator/contractor to determine that the roof structure and condition of the roof makes the roof an appropriate candidate for coating, and that a moisture test or other procedure has been performed to verify that the substrate is not wet. The above specification is offered as a service to the specifier. KARNAK does not practice architecture nor engineering and recommends that you consult a registered architect, engineer and/or roofing consultant. Accordingly KARNAK disclaims all liability in connection with the use of this specification.

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