

### SILVER REFLECTIVE COATING SYSTEM

**Substrates:**

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

**Mastic Type:**

502MS Karna-Flex

**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 **502MS Karna-Flex:** An elastomeric, thermoplastic-rubber sealant formulated for sealing and repairing seams, flashings, curbs, fasteners, penetrations and general repairs to asphalt based 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.

**PART 2 – APPLICATION:****2.1 General:**

- A. Read all applicable product data sheets and SDS for appropriate application and preparation guidelines.

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- 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. A moisture survey should 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 502MS Karna-Flex 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.
  - d. Allow the roof to completely dry before applying KARNAK coating products.

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## 2.3 Repairs:

- A. Seal and repair all base flashings, roof penetrations, drains, cracks, holes, large blisters and splits with 502MS Karna-Flex and 5540 Resat-Mat prior to applying coatings.
  - a. Apply Karna-Flex in a 1/16" thickness by 8" width directly over the area to repair with a 4" chip-type brush.
  - b. While still wet, immediately embed 6" wide Resat-Mat into the wet Karna-Flex.
  - c. Immediately apply an additional 1/16" thick by 8" wide application of Karna-Flex over the embedded Resat-Mat to completely cover the fabric, feathering the Karna-Flex out to the roof surface. No fabric should be visible.
  - d. Total coverage of Karna-Flex in this application is approximately 20 lineal feet per gallon.
  - e. Allow Karna-Flex to cure 6-24 hours before application of the subsequent 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 alligating.
- 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 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.

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- 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 3/4" 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. **502MS Karna-Flex:** 20 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 recommended use of KARNAK products listed are predicated on tests believed to be reliable. However, since such application and use is beyond our control, we do not guarantee the results to be obtained. 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.

### **KARNAK**

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