

## APPLICATION GUIDELINES

### WHITE REFLECTIVE COATING SYSTEM

**Substrates:**

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

**Mastic Type:**

Karna-Flex WB

**Reinforced Base Coat:**

100 Non-Fibered  
Primer

**Reflective Base Coat:**

405 Bond-N-Shield

**Reflective Finish Coat:**

505HS Mohave Coat  
White

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:**

- Reinforced asphalt emulsion base coat provides additional asphalt protection over worn areas exhibiting checking and alligatoring as well as fills in cracks and crevices to provide a firm base to receive reflective top coatings.
- 505HS Mohave Coat White is an Energy Star® listed reflective coating which can reduce 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.

**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 **Karna-Flex WB:** An acrylic elastomeric 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 **100 Non-Fibered Primer:** General purpose, non-fibered asphalt emulsion primer used to prepare asphalt surfaces for subsequent coatings.
- 1.5 **405 Bond-N-Shield:** 100% elastomeric acrylic coating specifically designed as a base coating for improved adhesion to asphalt surfaces. The coating contains stains blockers that prevent asphalt bleed thru to produce a brighter and long lasting coating system. Also greatly improves water blister resistance in temporary ponding areas versus traditional acrylic coating.
- 1.6 **505HS Mohave Coat White:** A high solids, highly reflective, elastomeric roof coating exhibiting outstanding color stability, flexibility, mildew resistance 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 gravel. 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 and 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.
- E. Do not apply any coating if rain is expected within 24 hours after application.

### **2.2 Preparation:**

- A. Repair all cracks, splits, holes and large blisters with Karna-Flex WB and 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

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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.

### 2.3 Repairs:

- A. Seal and repair all base flashings, roof penetrations, drains, cracks, holes, large blisters and splits with Karna-Flex WB and 5540 Resat-Mat prior to applying coatings.
  - a. Apply Karna-Flex in a 1/16' - 1/8" thickness by 8" width directly over the area to repair with a 'chip-type' brush.
  - b. While still wet, immediately embed 6" wide Resat-Mat into the wet Karna-Flex WB. Use the brush to remove any wrinkles or fishmouths.
  - c. Immediately brush apply an additional 1/16" - 1/8" thick by 8" wide application of Karna-Flex WB over the embedded Resat-Mat to completely cover the fabric, feathering the Karna-Flex WB out to the roof surface. No fabric should be visible.
  - d. Total coverage of Karna-Flex WB in this application is approximately 18-25 lineal feet per gallon.
  - e. Allow Karna-Flex WB to cure 48-72 hours before application of the subsequent finish coating.

### 2.4 Reinforced Base Coat Application:

- A. Application of the 100 Non-Fibered Primer (base coat) should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- B. Mechanically mix 100 Non-Fibered Primer to overcome any settling that may occur. Mix the product to a homogenous consistency.
- C. Starting at the low portion of the roof, apply one coat of 100 Non-Fibered Primer at the rate of 2-2.5 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 100 Non-Fibered Primer with either a broom, roof brush or roller to fully saturate the fabric. Make sure there are no wrinkle or fishmouths in the fabric.

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- F. Continue with the application of 100 Non-Fibered Primer 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 100 Non-Fibered Primer at the rate of 2-2.5 gallons per 100 sq.ft.
- I. Apply 100 Non-Fibered Primer up adjacent parapet walls and flashings at the rate of 1.5-2 gallons per 100 sq.ft.
- J. Allow 100 Non-Fibered Primer to cure for a minimum of 7-10 days before the application of subsequent reflective coatings. Cooler weather will require additional curing time.

### 2.6 Reflective 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. Clean any areas of residue off the emulsion just before applying the reflective coating. This may be accomplished by wiping with a wet rag.
- C. Thoroughly mix the 405 Bond-N-Shield to overcome any settling that may occur. Mix the product to a monolithic consistency.
- D. Starting at one end of the roof, apply one coat of 405 Bond-N-Shield at the rate of 1.5 gallons per 100 sq.ft. with a 3/4" nap roller or airless spray equipment.
- E. If spray applying the base coat, back roll the coating to achieve maximum adhesion and even coverage.
- F. Apply the coating evenly, working in the same direction. Don't overwork the coating or attempt "touch-ups" while the coating is still wet.
- G. Allow 6-12 hours before applying subsequent coating.

### 2.7 Reflective Finish Coat Application:

- A. Application of the 505HS Mohave Coat should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- B. Thoroughly mix the 505HS Mohave Coat to overcome any settling that may occur. Mix the product to a homogenous consistency.
- C. Starting at one end of the roof, apply one coat of 505HS Mohave Coat at the rate of 1.5 gallons per 100 sq.ft. with a 3/4" nap roller or airless spray equipment.
- D. Apply 505HS Mohave Coat perpendicular to the preceding base coat.

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- E. If spray applying the finish coat, back roll the coating to achieve maximum adhesion and even coverage.
- F. Apply coating evenly, working in the same direction. Don't overwork the coating or attempt "touch-ups" while the coating is still wet.

### 2.8 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. **Karna-Flex WB:** 20-25 lineal feet per gallon
- C. **5540 Resat-Mat** 6" x 300' per roll (Repairs)  
40" x 324' per roll (Field)
- D. **100 Non-Fibered Primer:** 4-5 gal. per 100 sq.ft.
- E. **405 Bond-N-Shield Base Coat:** 1.5 gal. per 100 sq.ft.
- F. **505HS Mohave Coat White:** 1.5 gal. per 100 sq.ft.

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 Corporation 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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