KARNAK CORPORATION
THE SEAL OF QUALITY

APPLICATION GUIDELINES

WHITE REFLECTIVE COATING SYSTEM

Substrates:
Existing Concrete Roof Deck

Mastic Type:
502MS Karna-Flex

Primer:
180 Karna-Sil Epoxy Primer

Finish Coat:
670HS Karna-Sil Ultra

The following KARNAK Roof Restoration System is intended to be applied over sound, dry, existing concrete roof decks with positive drainage.

BENEFITS & ADVANTAGES:

- Seals flashings and penetrations to form a seamless elastomeric membrane with exceptional elongation and tensile strength properties.
- Silicone coating will not degrade, chalk or crack under harsh UV exposure.
- 670 Karna-Sil Ultra is an 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.
- Forms a seamless membrane that withstands permanent ponding water without softening.
- NSF Rated – Designed for potable rainwater catchment systems.
- Coating produces a smooth surface that offers excellent resistance to mold, mildew and staining.

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 flashings, curbs, fasteners, penetrations and general repairs to concrete roofs prior to applying applicable coatings.

1.3 **5540 Resat-Mat:** Spunlaced polyester fabric for reinforcing mastics and coatings when sealing penetrations and flashings on concrete roofs.

1.4 **180 Karna-Sil Epoxy Primer:** Two-part, water-based epoxy primer used to prime and prepare roof surfaces prior to applying 670 Karna-Sil Ultra silicone coating.

1.5 **670 Karna-Sil Ultra:** Single-component, high solids, moisture curing silicone coating that produces a durable elastic coating with exceptional weathering and water resistant characteristics.

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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 smooth, sound, clean, dry and free of dirt, loose coating, grease, oil, dust and debris. Do not apply over brittle roof surfaces.
C. Roof deck must have positive drainage.
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 by V-cutting and sealing with a paintable one-component urethane caulk or 502MS Karna-Flex. Finish sealing by applying Karna-Flex and 5540 Resat-Mat in a three-course application or other appropriate materials. Seal all other defective areas that may affect the waterproofing integrity of the existing roof system.
B. Cut away low handing 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.

2.3 **Repairs:**

A. Apply Karna-Flex in a 1/16’ - 1/8” thickness by 8” width directly over the crack or area to repair with a ‘chip-type’ brush.

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B. While still wet, immediately embed 6" wide Resat-Mat into the wet Karna-Flex. 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 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 24-48 hours before application of subsequent coating.

2.4 **Sealing Penetrations & Flashings:**

A. Seal all base flashings, perimeters, roof penetrations and drain areas with Karna-Flex and 5540 Resat-Mat.
B. Apply Karna-Flex in a 1/16" – 1/8" thickness by 8" width directly over the area to repair.
C. While still wet, immediately embed 6" wide Resat-Mat into the wet Karna-Flex.
D. Immediately apply an additional 1/16" – 1/8" 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.
E. Total coverage of Karna-Flex in this application is approximately 20 lineal feet per gallon.
F. Install fabric reinforcement a minimum of 6" inches vertically up above all penetrations and a minimum of 6" out onto the field of roof.
G. Allow Karna-Flex to completely dry 24-48 hours before application of subsequent coating.

2.5 **Primer Application:**

A. Application of 180 Karna-Sil Epoxy Primer should take place when temperatures are 50°F-100°F. 180 Karna-Sil Epoxy Primer 'Part A' and 180 Karna-Sil Epoxy Primer 'Part B' should be both mixed individually first, then combined and mix thoroughly.
B. Take combined two component primer and apply at an average rate of 150-200 sq. ft. per gallon to the entire concrete roof surface. Do not use material that has been mixed for 4 hours or more.
C. Apply with a nylon brush or 1/4" to 3/8" nap roller or airless spray equipment.
D. Allow to thoroughly set, which is normally 2-3 hours (dependent upon temperature and humidity) before applying finish coat. Best adhesion is achieved if coated over within 1-3 days after

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application. Must be coated over within 7 days after application.

2.6 **Finish Coat Application:**

A. Application of 670HS Karna-Sil Ultra should take place when temperatures are 50°F-100°F. Do not apply if rain is expected within 24 hours after application.
B. Apply 670HS Karna-Sil Ultra over 180 Karna-Sil Epoxy Primer as soon as primer has thoroughly set.
C. Best adhesion is achieved if primer is coated over within 1-3 days after application. 670HS Karna-Sil Ultra must be applied within 7 days after application of the primer.
D. Thoroughly mix coating prior to application with a 3" diameter mixer (5-gallon pail) or 6" diameter mixer (55-gallon drum). Once product is mixed, the entire container should be used.
E. Apply 670HS Karna-Sil Ultra with a soft roof brush, medium nap roller or heavy-duty airless spray equipment.
F. Apply in a single coat application at the rate of 1.5 to 3 gallons per 100 sq. ft. for 23 to 46 dry mils.
G. Do not apply if rain is expected within 24 hours after application.

2.7 **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 gal.
C.	**5540 Resat-Mat:**	6" x 300' per roll
D.	**180 Karna-Sil Epoxy Primer:**	1 gal. per 150-200 sq. ft.
E.	**607HS Karna-Sil Ultra:**	1.5 - 3 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.

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