

WHITE REFLECTIVE COATING SYSTEM

Substrate:

**Metal
(Previously Aluminum
Coated)**

Mastic Type:

505MS Karna-Flex WB

Base Coat:

**405 Bond-N-Shield
Base Coat**

Finish Coat:

501 Elasto-Brite

APPLICATION GUIDELINES

The following KARNAK Roof Restoration System is intended to be applied over sound metal roofing systems that have been previously aluminum coated.

BENEFITS & ADVANTAGES:

- 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.
- Encapsulates surface rust on properly prepared metal surfaces and inhibits the formation of new rust.
- Sustainable - Avoids roof replacement and adds life to the existing roof 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 **505MS Karna-Flex WB:** An acrylic elastomeric mastic formulated for sealing and repairing flashings, curbs, fasteners, penetrations and general repairs to all types of metal roofs prior to applying subsequent coatings.
- 1.3 **5540 Resat-Mat:** Spunlaced polyester fabric for reinforcing mastics and coatings over irregular, rough surfaces as well as smooth surfaces.
- 1.4 **404 Corrosion Proof Base Coat (If rust present):** Self-priming, modified acrylic base coat designed to go over sound and properly prepared rusted and non-rusted metal surfaces to prevent the development of new rust.
- 1.5 **405 Bond-N-Shield:** 100% elastomeric acrylic coating specifically designed as a base coating for improved adhesion to asphalt surfaces and existing acrylic coating. The coating contains stains blockers that prevent asphalt bleed thru to produce a brighter and long lasting coating system.
- 1.6 **501 Elasto-Brite White:** A 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, heavy flaking or pitting rust, grease, oil, foreign contaminants and debris.
- C. All fasteners should be re-tightened or replaced as necessary. Stripped fasteners must be replaced with larger fasteners. All fasteners should include a neoprene washer.
- D. Rusted through panels or sections must be replaced.
- E. Rusted areas should be wired brushed down to clean, stable metal.
- F. Damaged skylights, if applicable, should be removed and replaced.
- G. Remove all non-functioning vents, penetrations, antenna and non-working equipment.
- H. Adhesion of the coatings should be tested over all applicable roof surfaces prior to the system application.

2.2 Preparation:

- A. Cut away low hanging branches and vegetation that extend onto the roof.
- B. Remove all loose coating and repairs. Silicone caulking must be removed prior to coating system application.
- C. Power-wash all surfaces to be coated with 799 Wash-N-Prep Roof Cleaner and water maintaining a minimum of 3,000 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 Rust Treatment (If Rust Present):

- A. Over all rusted areas, if present, apply one coat of 404 Corrosion Proof Base Coat to stop rust formation.
- B. Application of the 404 Corrosion Proof Base Coat should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- C. 404 Corrosion Proof Base Coat is a self-priming, fully elastomeric base coat with rust inhibitors formulated specifically for metal roof surfaces and is light gray in color to allow for easy application of the white finish coat.
- D. Thoroughly mix the 404 Corrosion Proof Base Coat to overcome any settling that may occur prior to application of coating.
- E. Apply one coat of 404 Corrosion Proof Base Coat over the rusted metal roof areas at the rate of 1.5 gallons per 100 sq. ft. (24 wet mils).
- F. Apply with a 3/4" medium nap roller or soft roof brush.
- G. Allow base coat to dry 12-24 hours before applying subsequent coatings

2.4 Seam Sealing - Horizontal Seams & Penetrations:

- A. All horizontal seams, penetrations and cracks should be sealed using 6" wide 5540 Resat-Mat and 505MS Karna-Flex WB.
 - a. Apply Karna-Flex WB over the seam in a 1/16" thickness by 8" width using a 3" or 4" 'chip type' brush.
 - b. While still wet, immediately embed 6" wide Resat-Mat into the wet Karna-Flex WB. Brush Resat-Mat to smooth out and removed any wrinkles or fishmouths.
 - c. Apply a second and final application of Karna-Flex WB over the embedded Resat-Mat. Apply at an average thickness of 1/16" by 8" wide to completely cover the Resat-Mat, feathering out the Karna-Flex WB on to the roof surface. No fabric should be visible.
 - d. Total coverage of Karna-Flex WB in this application is approximately 20 lineal feet per gallon.
 - e. Allow all repairs to cure 24-48 hours before applying subsequent coating.

2.5 Seam Sealing - Vertical Seams:

- A. For vertical seams less than 1/16" wide brush apply a 2" wide 'bead' by 1/16" thick application of Karna-Flex WB along the seam, back brushing the coating into the seam.
- B. Total coverage of Karna-Flex WB in this application is approximately 160 lineal feet per gallon

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- C. For vertical seams open greater than 1/16" wide treat in the same manner as a Horizontal Seam and three-course with Karna-Flex WB and 5540 Resat-Mat as described above.
- D. Allow all repairs to cure 24-48 hours before applying subsequent coating.

2.6 Fastener Sealing:

- A. All fasteners must receive a dollop (swirl coat) of Karna-Flex WB using a 1" or 2" chip brush to completely encapsulate the fastener. Allow Karna-Flex WB to completely cure before applying base coat.
- B. Applicator should "swirl" apply the Karna-Flex WB around the faster to ensure there is no trapped air between the Karna-Flex WB and the fastener.
- C. 1 gallon of Karna-Flex WB covers approximately 250 fasteners in this application.
- D. Allow all repairs to cure 24-48 hours before applying subsequent coating.

2.7 Base Coat Application:

- A. Application of the 405 Bond-N-Shield Base Coat should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- B. 405 Bond-N-Shield Base Coat is a self-priming, bleed-blocking, fully elastomeric base coat formulated specifically for use over surfaces with previously applied coatings and is light blue in color to allow for easy application of the white finish coat.
- C. Thoroughly mix the 405 Bond-N-Shield Base Coat to overcome any settling that may occur prior to application of coating.
- D. Apply one coat of 405 Bond-N-Shield Base Coat over the entire metal roof and previously applied Karna-Flex WB at the rate of 1.5 gallons per 100 sq. ft. (24 wet mils).
- E. Apply with heavy-duty airless spray equipment, 3/4" medium nap roller or soft roof brush.
- F. Allow base coat to dry 12-24 hours before applying subsequent coatings.

2.8 Finish Coat Application:

- A. Application of the 501 Elasto-Brite White should take place when temperatures are 40°F-100°F and humidity levels are 85% or less.
- B. Thoroughly mix the 501 Elasto-Brite White to overcome any settling that may occur.
- C. Starting at one end of the roof, apply one coat of 501 Elasto-Brite White over the entire metal roof previously coated with

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405 Bond-N-Shield Base Coat or 404 Corrosion Proof Base Coat at the rate of 1.5 gallons per 100 sq. ft. (24 wet mils).

- D. Apply with heavy-duty airless spray equipment, 3/4" medium nap roller or soft roofing brush.
- E. Apply 501 Elasto-Brite White evenly, working in the same direction. If brushing or rolling on don't overwork the coating or attempt "touch-ups" while the coating is still wet.
- F. Do not apply any coating if rain is expected within 24 hours after application.

2.9 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. **505MS Karna-Flex WB:**
 - With Resat-Mat 20 lineal feet per gallon
 - Without Resat-Mat 160 lineal feet per gallon
- C. **5540 Resat-Mat:** 6" x 300' per roll
- D. **404 Corrosion Proof Base Coat:** 1.5 gal. per 100 sq. ft.
(Where Applicable)
- E. **405 Bond-N-Shield Base Coat:** 1.5 gal. per 100 sq. ft.
- F. **501 Elasto-Brite 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 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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