

## **Vulkem® 360NF/950NF and/or 951NF**

### **Medium & Heavy Duty Deck Coating System**

#### **1. Purpose**

1.1 The purpose of this document is to establish uniform procedures for applying the VULKEM Neighbor Friendly Medium and Heavy Duty DECK COATING SYSTEM.

1.2 The techniques involved may require modifications to adjust to job site conditions. Consult your Tremco Representative for specific design requirements.

#### **2. Scope**

2.1 This document will provide the necessary instructions for the application of the VULKEM NEIGHBOR FRIENDLY MEDIUM AND HEAVY DUTY DECK COATING SYSTEM to qualify for the manufacturer's warranty.

#### **3. Conditions of Concrete Surfaces**

3.1 Concrete shall be water cured and in place according to the industry standard of 28 days and is our recommendation prior to installing the coating materials. Twenty-eight days is usually sufficient to allow excess moisture to leave a concrete slab. Should the coating application have to be applied prior to 28 days, please contact your local Tremco Representative or Tremco Technical Services.

3.2 Concrete shall be finished with a light steel trowel followed by a light broom finish.

3.3 Surface to receive coating, sealant or liquid applied flashing material shall be sound, dry, clean and free of all dirt, dust, oil, grease, wax, tar, asphalt, mildew, mold, paint, sealers, coatings, curing agents, loose particles, latence and other contamination or foreign matter which may interfere with the adhesion.

Job site conditions may require use of a Vulkem Primer. Consult a Tremco Representative for recommendations prior to installing materials.

3.4 The condition of "dry" shall be determined by fastening a rubber mat to the concrete deck for a minimum of six hours. The mat shall be located in an area exposed to the sun. After six hours (minimum), the surface beneath the rubber mat shall show minimal evidence of moisture or dampness.

3.5 Structural or shrinkage cracks in the concrete surface which are greater than 1/16 inch (1.5mm) wide shall be ground out to a minimum of 1/4 inch by 1/2 inch (6mm x 12mm) deep and treated following section 7, Detail Work.

3.6 In the event of exposed reinforcing steel, the exposed portions of steel shall be ground to expose clean, bright metal and primed with Vulkem Primer #171 or TREMprime Multi-Surface Urethane Primer\*.

3.7 Surfaces shall be made free of defects which may telegraph and show through the finished coating. Surfaces that are rough (fins, ridges, exposed aggregate, honeycombs, deep broom finish, spalls, etc.) shall be leveled and made smooth by grinding or by applying a nonshrink grout. Repaired areas must be primed with Vulkem Primer #171 or TREMprime Multi-Surface Urethane Primer\*.

3.8 All drains shall be cleaned and operative. Drains shall be recessed lower than the deck surface. The surface shall be sloped to the drain to provide positive drainage. Primer may be required. See Section 5.

3.9 If the project is restorative in nature, old sealant and backing material shall be removed. The joint interface may require a thorough wire brushing, grinding, sandblasting, solvent washing and/or a primer.

#### **4. Conditions For Wood Surfaces**

4.1 Wood must be firm and ring-shank screwed in place, with proper consideration given to joints and movement.

4.2 Wood surfaces must be primed with Vulkem Primer #171 or TREMprime Multi-Surface Urethane Primer\* typically do not need primed when applying Vulkem 360NF basecoat. A mock-up is necessary to assure proper adhesion.

4.3 Wood shall be 5/8" exterior-grade plywood, A-side up.

\*Note: Allow Vulkem Primer #171 to dry to slightly tacky before proceeding. Allow TREMprime Multi-Surface Urethane Primer to dry completely, at least 30 minutes.

#### **5. Special Surfaces**

5.1 Vulkem 360NF requires TREMprime non-porous primer on metal surfaces. Lap joints must be sealed with Dymeric 240FC sealant and coated with Vulkem 360NF in order to cover seams, bolts and rivets prior to applying the system.

#### **6. Materials**

6.1 Recommended materials and their uses are as follows:

DYMERIC 240FC SEALANT. A two-part chemically curing, gun grade polyurethane deck joint sealant for use in sealing cracks, expansion joints, control joints and for use in forming cant.

VULKEM 360NF COATING. A two-part, slightly thixotropic, self-leveling polyurethane coating used as the elastomeric waterproofing base coat. In addition Vulkem 360NF, when mixed with proper amounts of aggregate, can be used as a patching and sloping material.

**VULKEM 950NF COATING.** A two-part aromatic low odor/no VOC, 99% solids polyurethane topcoat providing a chemical resistant, weatherproof wearing surface.

**VULKEM 951NF COATING.** A two-part aliphatic low odor/no VOC, 99% solids polyurethane topcoat providing a chemical and UV resistant, color stable, weatherproof wearing surface.

**TREMPRIME MULTI-SURFACE URETHANE PRIMER.** A two-part, very low odor, quick drying, ultra-low VOC primer for use between urethane and wood, concrete and other urethane surfaces.

**VULKEM PRIMER #171.** A one-part, film forming primer to be used on porous surfaces to improve adhesion and to reduce pinholes in the membrane. Also used in expansion joints subject to continuous immersion or subject to water intrusion from hydrostatic conditions.

**TREMPRIME NON-POROUS PRIMER.** A one-part primer for use on any metal surface to which any Vulkem product will be applied.

**VULKEM PRIMER #191.** A one-part interlaminar primer for use when applying a fresh coat of Vulkem urethane after the proceeding coat has been exposed for over 24 hours and/or has lost its surface tack.

**BACKER ROD.** A closed cell polyethylene back-up material used in expansion joints, at the base of cants to prevent three-sided adhesion and to control the depth of the sealant.

## 7. Detail Work

Note: Do not apply sealant or coatings to a frosty, damp or wet surface or when air temperature is below 40°F (4°C) or the surface temperature is above 110°F (43°C). Cure times as stated below are based upon standard ambient conditions of 75°F (25°C), 50% relative humidity. A decrease in ambient temperature will significantly lengthen the cure time.

7.1 Mix the Dymeric 240FC using a suitable size mixing blade in a slow speed electric or air powered drill motor. Avoid trapping air into the mixture. Move the mixing blade around the inside of the container to assure complete disbursement of the catalyst.

7.2 At horizontal and vertical surface junctures lay a 1/4" inch (6mm) diameter backer rod into the corner (such as: curbs, wall sections, columns or penetrations through deck) Apply a bead of Dymeric 240FC Sealant, one inch (2.5cm) in width, over the Backer Rod. Tool the sealant bead to form a 45 cant. Use sufficient pressure to force out any entrapped air and to assure complete wetting of the surface. Remove excess sealant from the deck or wall surface.

7.3 In expansion and seismic joints, install a Backer Rod, 1/8 inch to 1/4 inch (3mm to 6mm) diameter larger than the joint

width to all prepared expansion joints. Set depth of Backer Rod to control the depth of the sealant. (Depth of sealant is measured from the top of the backer rod to the top of the concrete surface.) Proper depth of sealant is as follows:

For joints 1/4 inch (6.4mm) to 1/2 inch (12.7mm) wide, the width to depth ratio should be equal. Joints 1/2 inch (12.7mm) wide or greater should have a sealant depth of 1/2 inch (12.7mm). Minimum joint size is 1/4 inch by 1/4 inch (6.4mm by 6.4mm).

7.4 Completely fill joint with Dymeric 240FC Sealant or Vulkem 360NF. For cracks, tool sealant flush with the surface. For expansion joints, tool Dymeric 240FC Sealant slightly concave so the surface of the sealant is below the surface of the deck.

7.5 Allow Dymeric 240FC Sealant to cure overnight.

7.6 Apply a strip of tape (masking tape or duct tape) to the vertical sections, two or three inches above the Dymeric 240FC Sealant cant to provide a neat termination of the vertical detail coat. Apply a 25 mil (.64mm) thick detail coat of Vulkem 360NF over the treated cant and extend the Vulkem 360NF to the tape on the vertical surface and 4 inches (10.2cm) onto the horizontal surface. Feather the terminating edge of the Vulkem 360NF detail coat on the horizontal surface to prevent these edges from showing through the finished coating.

7.7 Apply a 30 mil (.75mm) thick detail coat of Vulkem 360NF, 6 inches (150mm) wide centered over all untreated cracks, all routed and sealed cracks and over all cold joints. Feather terminating edge of detail coat to prevent these edges from showing through the finished coating.

7.8 All Vulkem 360NF detail coats can be recoated immediately with Vulkem 360NF.

NOTE: Expansion and Seismic joints should not be coated over.

## 8. Coating Application

8.1 Thoroughly mix Vulkem 360NF prior to adding water.

8.2 Apply Vulkem 360NF at 25 mils (0.64mm) thickness to the entire area to be coated, including over all detail coats, but excluding expansion joints. The most popular method of application is with a notched trowel. Backroll to evenly distribute coating and to eliminate pinholes. Vulkem 360NF can also be applied with a roller equipped with a solvent resistant roller sleeve.

8.3 Allow Vulkem 360NF to cure for a minimum of 6 hours and a maximum of 24 hours at 75°F (24°C), and 50% relative humidity.

8.4 When a faster cure time is desirable, Vulkem 360NF Quick Cure Catalyst can be added after the water has been added and mixed into the system. The Vulkem 360NF Quick Cure

Catalyst will enable the applicator to topcoat the system within 3 hours at 75°F (24°C), and 50% relative humidity.

NOTE: The Vulkem 360NF should have a slightly tacky surface to aid in the adhesion of the Vulkem Ultra-High Solids Topcoats. If the membrane coat has reached a tack-free cure, the surface must be cleaned with a cloth which has been wet with Xylol (Xylene). DO NOT SATURATE THE SURFACE WITH SOLVENT. IF THE MEMBRANE COAT HAS BEEN ALLOWED TO BE EXPOSED FOR MORE THAN 24-36 HOURS, IT SHOULD BE CLEANED, THEN PRIME COATED WITH VULKEM PRIMER #191 or TREMPRIME MULTI-SURFACE URETHANE PRIMER. Contact your local Tremco representative in these situations.

8.5 Pre-mix the Vulkem 950NF or Vulkem 951NF base component, Part A to assure no settlement of the material is in the bottom of the pail and the color of the material is consistent with no streaks or striations. Open, mix and use one pail at a time.

Empty contents of the curative, Part B into the base, Part A. Using a jiffler type blade and slow speed drill, carefully mix the two components for 3 minutes, scrape down the sides of the pail, mix an additional 1-2 minutes. Use care to not incorporate air into the product.

For Heavy Duty Applications: Allow the first coat of the Vulkem NF Topcoat to cure a minimum of 6 hours up to 24 hours prior to applying a second coat. Repeat.

Vulkem 950NF or Vulkem 951NF topcoats are applied with a medium nap roller at the rate of 125 sq. ft./gal (3.2sq.m/L) to yield approximately 12 wet mils (0.30mm) thickness over the cured Vulkem 360NF. Remove excess material from the roller by using a screen in the pail to avoid puddles or ponding of the material. Broadcast 15-18 lbs. of 30-40 as sold by Best Sand or equivalent mesh silica sand per gallon (0.5kg/L) immediately into the wet topcoat and back roll with a pre-wetted roller to evenly distribute the aggregate.

Allow the system to cure 12 hours prior to foot traffic and 24 hours prior to vehicular traffic.

Consult your Tremco Technical Service Representative for specific design requirements.

## 9. Slip Resistance

The non-skip properties of the finished deck coating system is determined by the applicator. We suggest installing a test patch and obtaining customer acceptance.

## 10. Clean Up

10.1 Clean all adjacent areas to remove any stains or spills with MEK, Toluene or Xylene.

10.2 Clean tools or equipment with MEK, Toluene, or Xylene before materials cure.

10.3 Clean hands by soaking in hot, soapy water then brush with a stiff bristle brush.

## 11. Usage

The following is a guide to estimate material usage:

DYMERIC 240FC. For a one inch (25.4mm) cant bead over a 1/4 inch (6mm) backer rod, 1 gallon of sealant for every 20 linear feet is required (1 liter for 8 meters).

VULKEM 360NF COATING. Apply at a rate of 64 square feet per gallon (1.57m<sup>2</sup>/L) for a wet mil thickness of 25 mils (.64mm) for vehicular application. A detail coat which extends 4 inches (10.2cm) on the horizontal deck requires 1 gallon of coating for every 90 linear feet (1 liter for 7.3 meters). A detail coating (6 inches x 25 mils) (15.2cm x 0.64mm) over a crack requires 1 gallon of coating for every 120 linear feet (1 liter for 9.7 meters)

VULKEM 950NF OR VULKEM 951NF TOPCOAT. Apply at a thickness of 12 mils (0.30mm). \*NOTE: Second coat may yield less coverage compared to initial due to increased surface area caused by impregnated sand.

