TREMCO

APPLICATION INSTRUCTIONS

VULKEM® OC 810

One-Coat, Low-Odor, Low-VOC Deck Coating for Light Pedestrian Applications

1. PURPOSE

1.1 The purpose of this document is to establish uniform procedures for applying the Vulkem® OC 810 Light Pedestrian Coating System. The techniques involved may require modifications to adjust to jobsite conditions. If you have any questions about your application, contact your local Tremco Sales Representative for specific design requirements.

1.2 This document will provide the necessary instructions and troubleshooting for the application of the Vulkem Pedestrian Deck Coating System to qualify for the manufacturer's warranty.

2. INSPECTION OF JOBSITE CONDITIONS

2.1 Investigation of the substrate should be performed to determine the type of surface preparation that will need to take place to achieve the appropriate surface profile required for the coating application. Depending on the condition of the concrete, one or more types of surface preparations may be required. Refer to ICRI's Technical Guidelines No. 03732 – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, and Polymer Overlays for best practices on selecting the appropriate method of concrete preparation. Thin film or high-build coatings will require the surface profile, CSP 2-4.

3. CONDITIONS FOR CONCRETE SURFACES

3.1 Concrete shall be water-cured and attain a 3000 psi minimum compressive strength. Moisture content in the concrete must be lower than 4.5% as measured using a Tramex CME 4 Moisture Meter. Depending on concrete construction and job site location, additional concrete testing may be required. Please contact your local Tremco Sales or Technical Representative.

3.2 Concrete shall be free of any laitance which can usually be achieved by shotblasting (preferred method) or sandblasting the surface. For proper methods, refer to ICRI's Technical Guideline No. 03732.

3.3 Concrete surface shall be properly cleaned so that the surface to receive the coating, sealant, or liquid-applied flashing is free of mold, paint, sealers, coatings, curing agents, loose particles, and other contamination or foreign matter that may interfere with the adhesion.

3.4 Shrinkage cracks in the concrete surface that are 1/16" (1.6 mm) wide or greater shall be ground out to a minimum 1/4" wide x 1/2" deep (6 mm x 12 mm) and treated according to the instructions in Section 7, Dental Work.

3.5 Structural cracks regardless of width shall be ground out to a minimum 1/4" wide x 1/2" deep (6 mm x 12 mm) and treated according to the instructions in Section 7, Detail Work.

3.6 Spalled areas shall be cleaned free of contaminants prior to repair. Because jobsite conditions vary, it is recommended that you contact Tremco Technical Services at 866-209-2404 for the best method of repair.

3.7 In the event of exposed reinforcing steel, it is recommended that the structural engineer of record be contacted for investigation and for best repair method.

3.8 Surfaces shall be made free of defects that may telegraph and show through the finished coating. Surface that are rough (fins, ridges, exposed aggregate, honeycombs, deep broom finish, etc.) shall be leveled and made smooth by applying a coat of sand-filled epoxy.

3.9 All drains shall be cleaned and operative. Drains shall be recessed lower than the deck surface. The surface shall be sloped to drain to provide positive drainage. Drains should be detailed as instructed below.

- Cut a 1/4" wide x 1/2" deep (6 mm x 12 mm) keyway into the concrete surface at any point where the coating will have an exposed terminating edge – that is, any point where the coating will end in an open area subject to traffic, for example, at the end of a ramp, around drains and alongside expansion joints.

3.10 If the project is a restoration deck, old sealant and backing material shall be removed. The joint interface will require a thorough wire brushing, grinding, sandblasting, solvent washing and/or primer.

4. CONDITIONS FOR WOOD SURFACES

4.1 Wood must be 5/8", exterior-grade plywood, "A"-side up and well fastened with ring shank nails or screws, with proper consideration given to joints and movement.

4.2 Wood surfaces may need to be primed with Vulkem Primer #171 or TREMprime® Multi-Surface Urethane Primer. Allow primer to dry as recommended in the primer data sheet or selection sheet.

5. SPECIAL SURFACES

5.1 Vulkem OC810 requires TREMprime Non-Porous Primer on metal surfaces. Lap joints must be sealed with Dymonic® 100 and coated with Vulkem OC810 in order to cover seams, bolts, and rivets prior to applying the system.

6. JOBSITE MATERIALS

Recommended materials and their uses are as follows:

Dymonic 100: A one-part, moisture-curing, gun grade polyurethane sealant for use in precast, masonry, expansion joints, control joints, and for use in forming cants.

Vulkem OC 810: A one-part, aliphatic polyurethane, low odor, low VOC, coating used as the elastomeric waterproofing membrane and wear course.

Vulkem Primer #171: A one-part, film-forming primer to be used on porous surfaces.

Vulkem 191 Primer: A low-VOC compliant, one-part, porous and interlaminary primer for use in applying a fresh coat of Vulkem coating or sealant after preceding coat has been exposed for long periods of time.

TREMprime Multi-Surface Urethane Primer: A low-VOC, quick drying, two-part primer for use between urethanes and urethanes, wood, concrete, PVC, and steel.

Tremco Rubber Aggregate: 12-16 mesh (0.5 to 1.2 mm) pose manufactured/SBR ground rubber. NOTE: Tremco Rubber Aggregate may not be required for vertical applications.

Refer to the project manager for your specific job requirements.

7. DETAIL WORK

Note: Do not apply sealant or coatings to a frosty, damp, or wet surface or when substrate 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% RH. A decrease in ambient temperature and humidity will significantly lengthen the cure time.

7.1 Lay a 1/4" (6 mm) diameter backer rod into the corner at the juncture of all horizontal and vertical surfaces such as curbs, wall sections, columns, or penetrations through the dec. Apply a bead of Dymonic 100 1” (2.5 cm) wide over the backer rod. Tool the sealant bead to form a 45° cant. Use sufficient pressure to force out any trapped air and to assure complete wetting of the surface. Remove excess sealant from the deck or wall joints. NOTE: Backer rod is only required for moving joints.

7.2 Install a backer rod, 1/8” to 1/4" (3 mm to 6 mm) diameter larger than the joint width to all prepared control 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" (6.4 mm) to 1/2" (12.7 mm) wide, the depth ratio should be equal.
- Joints 1/2" (12.7 mm) wide or greater should have a sealant depth of 1/2" (12.7 mm). The minimum joint size is 1/4" x 1/4" (6.4 mm x 6.4 mm).

7.3 All cracks and joints shall be sealed with Tremco approved sealant, and tooled flush with the surface. Note: Expansion joints should not be coated over. For treatment of expansion joints, contact your local Tremco Sales Representative.

7.4 Allow sealant to cure overnight.

7.5 Apply a strip of masking tape or duct tape to the vertical sections, 2” or 3” above the Dymonic 100 Sealant’s cant to provide a neat termination of the vertical detail coat.

7.6 NOTE: Primer must be used on all concrete substrates prior to all Vulkem OC 810 applications, including detailing.

7.7 Prior to use, Vulkem OC 810 should be mixed with a spiral paint mixing paddle at a rate of 500 rpm for 2 to 4 min.

7.8 Apply 20-mil (.64 mm) thick detail coat of Vulkem OC 810 over the treated cant and extend it to the tape on the vertical surface and 4” (100 mm) onto the horizontal surface. Feather-edge the terminating edge of the Vulkem OC 810 detail coat on the horizontal surface so it will not show through the finished coating.

7.9 Apply a 20-mil (.64 mm) thick detail coat of Vulkem OC 810 6” (150 mm) wide centered over all untreated cracks, all routed and sealed cracks and over all cold joints. Feather-edge terminating edge of detail coat to keep these edges from showing through the finished coating.

7.10 Allow all detail coats to cure for a minimum of 4 to 6 hr depending on temperature and humidity.

NOTE: Recommended coverage rates are approximate, Rubber aggregate loading methods and concrete surface profiles may increase the amount of material required to obtain uniform coverage.

8. COATING APPLICATION

8.1 Please refer to mixing instructions in Section 7.7. Boxing of pails is recommended for color consistency between different lots.

8.2 Apply Vulkem OC 810 at a maximum rate of 64 ft²/gal to yield a minimum of 25 wet mils thick over the entire area, including over all detail coats, but excluding expansion joints. The recommended method of application is with a notched squeegee. Vulkem OC 810 can also be applied with a roller equipped with a solvent resistant, medium nap roller sleeve.

8.3 Immediately after the application of the Vulkem OC 810 broadcast the Tremco Rubber Aggregate 12-20 mesh into the wet Vulkem OC 810. The rubber aggregate is typically broadcast at a rate of 5lb/g gal-pail of Vulkem OC 810. Five pounds of Tremco Rubber Aggregate is equivalent to what will fit into a one gallon can.

8.4 Following the broadcast of the rubber aggregate backroll it into the Vulkem OC 810. One back and forward stroke is typically adequate to disperse the rubber aggregate into the coating. Over rolling tends to clump the rubber aggregate in the coating leading to a less than desirable finish. Jobsite mock-ups should be performed to perfect the finish the building owner wants to achieve.

8.5 Allow the Vulkem OC 810 to cure a minimum of 12 hr prior to foot traffic or placement of balcony furniture. Cure rates depend on temperature and humidity. Refer to cure rate guidelines in chart at the end of this document.

9. CLEAN UP

9.1 Clean all adjacent areas to remove any stains or spills with Toluene or Xylene.

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

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

10. USAGE

The following is a guide to estimate material usage:

Dymonic 100: For a 1" (25 mm) cant bead over a 1/4" (6 mm) backer rod, 1 case of sealant for every 48 lf (14.6 M) is required.

Vulkem OC 810: Application at a rate of 64 ft²/gal (1.6 M²/L) will yield a mil thickness of 25 mils.

Tremco Rubber Aggregate 12-16 Mesh: 5lb/5 gal-pail or 5 lb/200 ft².

11. TROUBLESHOOTING

This section describes common industry application issues when certain environmental conditions exist and their remedies. If any of these should occur, it is always recommended that you contact your local Tremco Sales Representative or Tremco Technical Services.

11.1 Tremco requires that any possible recoating job be reviewed and approved by your Sales and/or Technical Representative prior to installation.

11.2 When a deck contains too much moisture, the moisture may change into a vapor, which then condenses at the concrete-membrane interface before the coating has cured and may cause blisters or bubbles, ultimately interfering with proper adhesion. If this should occur, the blisters can be cut out, allowing moisture to escape. After moisture has escaped and the surface is dry, the area can be repaired.

11.3 If the coating application has been installed at a thickness that is greater than our installation instructions, pinholes, blisters, or bubbles may develop in the coating. To avoid this occurrence, the material should be applied in accordance to the installation instructions.

11.4 If the coating is applied in very hot ambient temperatures, the air in the small spaces between the concrete particles increases in volume and forms blisters. Contact Technical Services should this occur.

11.5 If the previous coating application has not fully cured, solvent may become trapped between the coats and lead to large blisters. When cut out, they may still be tacky on the underside. Blisters may be cut out and repaired after the surface ahs been allowed to fully dry.

12. WEATHER IMPACT ON COATING APPLICATION

This section discusses the impact of applying these coatings outside the ideal temperature application range of 65 to 85 °F (18.3 to 29.4 °C) at 550% RH.

12.1 At temperatures lower than the ideal range, the material will become viscous and it will cure at a slower rate. Refer to the chart below for approximate cure rates at varying temperatures.

12.2 Deck temperatures may affect cure rates even when ambient temperatures are high.
12.3 Enclosed areas may slow the cure rate of the coating because humidity levels tend to be low in these conditions due to the low exchange or air over the membrane.
12.4 In extremely dry conditions with RH less than 50%, even when temperatures are high, cure rates can still be extended.

QUICK REFERENCE APPLICATION CHART

PRODUCT	WET MILS	CURE TIME*	SQUARE FEET PER GALLON
Vulkem OC 810	25	Minimum 4 to 6 hr	64

Approved primer must be used prior to Vulkem OC 810 application.
*Cure times are based on ideal ambient temperature at 50% RH. See chart below for ideal temperature range.

APPROXIMATE CURE TIMES IN HOURS AT 50% RH

TEMPERATURE AT 50% RH	VULKEM OC 810
40 to 55 °F 4.4 to 12.8 °C	24 to 72
55 to 65 °F 12.8 to 18.3 °C	6 to 24
65 to 85 °F 18.3 to 29.4 °C	4 to 6
85 °F 29.4 °C	< or = 4

Variations in temperature and humidity can affect the cure rate of the coating. The above chart should be used as a guide only to determine the approximate rate of cure. Other factors can also influence the cure rate such as substrate temperature and enclosed environments. For more information about proper application procedures, please refer to the Installation Instructions or contact Technical Services.