Vulkem 350NF/345/346

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Vulkem® 350NF/345/346

Elastomeric, Waterproof Traffic Deck Coating System

Product Description

Vulkem® 350NF/345/346 is a modified polyurethane traffic deck coating system composed of a base coat (350NF), heavy duty intermediate coat (345) and a top coat (346). This unique waterproofing system is designed to have tenacious adhesion, extreme impact and abrasion resistance along with remarkable chemical stability. The elastomeric properties of the system's components enable the complete assembly to give and work with the concrete slab, bridging the shrinkage cracks.

Vulkem 350NF Base Coat is a single-component, low-odor, low-VOC, urethane membrane that bonds firmly to clean, dry concrete and metal. It retains its integrity even if substrate movement causes hair-line cracks of up to 1/16" (1.5 mm). If cut or damaged, Vulkem 350NF will prevent water migration between itself and the substrate. Vulkem 350NF is available in roller (R) and in self-leveling (SL) grade for vertical and horizontal application.

Vulkem 345 Intermediate Coat is a two-component urethane that is applied after the Vulkem 350NF Base Coat has cured. The intermediate coat is loaded with aggregate to give the system excellent impact, abrasion and chemical resistance.

Vulkem 346 Top Coat is an aliphatic one-component polyurethane that is applied after the Vulkem 345 intermediate coat has cured. Interlaminar adhesion to Vulkem 345 is exceedingly strong. The top coat affords excellent abrasion resistance, UV stability and chemical resistance to complete this Vulkem Traffic Deck Coating System.

Basic Uses

Vulkem 350NF/345/346 is a cold-applied traffic deck coating system designed for waterproofing concrete slabs and protecting occupied areas underneath from water damage. Additionally, the system will protect the concrete from the damaging effects of water, deicing salts, chemicals, gasoline, oils and anti-freeze.

Features and Benefits

- Fast cure through time allows for use 72 hr after installation.
- Mildew and fungus resistance safeguards concrete surfaces against environmental contaminants.
- Excellent durability and UV resistance extends the useful life of vehicular systems.
- Recoatable and compatible with other Tremco sealants, which enhance waterproofing protection with full system compatibility.

Availability

Immediately available from your local Tremco Sales Representative, Tremco distributor, or warehouse.

Packaging

Vulkem 350NF: 5-gal (18.9-L) pails, 55-gal (208.2-L) drums.

Vulkem 345: 5-gal (18.9-L) pails, 55-gal (208-L) drums.

Vulkem 346: 5-gal (18.9-L) pails, 55-gal (208-L) drums.

Colors

Vulkem 346 is available in Beige, Gray, Limestone, Maple and Slate Gray. Made-to-order and special colors also are available upon request.

Installation

Concrete shall be water-cured and attain a 4000 psi minimum compressive strength. Concrete finish shall be a light steel trowel followed by a fine-hair broom, or equivalent ICRI #2-#4 finish. Moisture content in the concrete must be lower than 4.5% as measured by 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.

Please refer to the Vulkem 350NF/345/346 Application Instructions for complete application details. The techniques involved may require modification to adjust to the jobsite conditions. Consult your Tremco Sales Representative or Tremco Technical Service for site conditions and requirements.

Applicable Standards

Conforms to ASTM C957. Conforms to UL 790 - Class A Rating for non-combustible substrates.

Limitations

- Do not apply to damp or contaminated surfaces.
- Use with adequate ventilation.

Warranty

Tremco warrants its Products to be free of defects in materials but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or to refund the purchase price of the quantity of Tremco Products proven to be defective, and Tremco shall not be liable for any loss or damage.

Please refer to our website at www.tremcosealants.com for the most up-to-date Product Data Sheets.

NOTE: All Tremco Safety Data Sheets (SDS) are in alignment with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) requirements.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VULKEM 350NF	VULKEM 345	VULKEM 346
Maximum V.O.C.	Method 310	60 g/L	242 g/L	353 g/L
Flash Point	Set-A-Flash	>160 °F (71 °C)	95 °F (35 °C)	85 °F (29 °C)
% Solids (by Weight)	ASTM D1353	90 to 98%	82%	72%
Drying Time @ 75F, 50% RH	ASTM D1640	25 mil film, 4 to 6 hr	15 mils, 2 to 4 hr	10-12 mil film, 6 to 8 hr
Open to vehicular traffic		N/A	N/A	72 hr after cure
Weathering	ASTM D822	N/A	N/A	No effect
Salt Spray	ASTM B117	N/A	N/A	No effect
Viscosity	Brookfield C&P	4000 to 6000 cps	2000 to 3000 cps	2000 to 3000 cps
Elongation	ASTM D412	600 to 700%	90%	120%
Tensile Strength	ASTM D412	220 to 460 psi	750 psi	3205 psi
Hardness (Shore A)	ASTM D2240	45 to 60	60 to 70	85 to 95
Adhesion (Peel Strength)	ASTM D903	Unprimed Concrete, 20 to 30 pli, 100% cohesive failure	100% cohesive failure	100% cohesive failure
Adhesion (Pull-Off)	ASTM D4541	200 to 400 psi	N/A	N/A
Abrasion Resistance (1000 cycles)	ATSM D4060	N/A	N/A	50 mg
Accelerated Aging	ASTM D573	No loss of elongation or tensile strength	No loss of elongation or tensile strength	No loss of elongation or tensile strength

* Accelerated aging test. 1 daily cycle of UV and water spray greatly exceeds 1 day of real world exposure. Contact Tremco Technical Service or your local sales representative for more information.

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Vulkem® 350NF/345/346

Elastomeric, Waterproof Traffic Deck Coating System

APPLICATION INSTRUCTIONS

1. Purpose

1.1 The purpose of this document is to establish uniform procedures for applying the Vulkem® 350NF/345/346 Traffic Deck Coating System. This document describes application procedures for medium and heavy duty requirements. The techniques involved may require modifications to adjust to jobsite conditions. If you have any questions at all about your application, contact your local Tremco Field Sales Representative for specific design requirements.

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

2. Substrate Preparation

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 Guideline 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 and high-build coating applications will require the surface profile, CSP 2-4.

3. Conditions for Concrete Surfaces

3.1 Concrete shall be water-cured and attain a 4000 psi minimum compressive strength. Moisture content in the concrete must be lower than 4.5% as measured by 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 made 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, coating, curing agents, loose particles and other contamination or foreign matter which may interfere with the adhesion. Job site conditions may require the use of a Vulkem primer.

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 5, Detail 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 5, Detail Work.

3.6 Spalled areas shall be cleaned and free of loose contaminants prior to repair. Because jobsite conditions vary, it is recommended that you contact Tremco Technical Service or your local Tremco Sales Representative 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 of the condition and for the best method of repair.

3.8 Surfaces shall be made free of defects that may telegraph and show through the finished coating. Surfaces 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. 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. Jobsite Materials

4.1 Recommended materials and their use are as follows:

Dymonic® 100: A one-part, moisture-curing, gun grade polyurethane sealant for use in sealing cracks, control joints, drain detailing, and in forming cants.

Vulkem 350NF Base Coat: A one-part, low odor, low VOC, polyurethane coating used as the elastomeric waterproofing membrane of the system available in an R (roller) grade and SL (self-leveling) for vertical and horizontal applications.

Vulkem 345 Wear Coat: A two-part polyurethane wear coat.

Vulkem 346 Top Coat: A one-part, aliphatic polyurethane top coat providing a chemical- and UV-resistant, color-stable, weatherproof wear surface.

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

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

TREMprime® Non-Porous Primer: A one-part primer for use on metal surfaces.

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

Vulkem Primer #191 QD: 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.

Aggregate: 20-40 mesh silica sand or alumina oxide, which imparts a textured finish and contributes to slip and wear resistance.

5. Detail Work

Note: Do not apply sealant or coatings to a frosty, damp or wet surface or when air or surface 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.

5.1 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 deck. 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 joint. NOTE: Backer rod is only required for moving joints.

5.2 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 concrete surface.) Proper depth of sealant is as follows:

- For joints 1/4" (6.4 mm) to 1/2" (12.7 mm) wide, the width to depth ratio should be equal.
- Joints 1/2" (12.7 mm) wide or greater that are not expansion joints 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).
- 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.

5.3 Allow sealant to cure overnight.

5.4 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.

5.5 Prior to use, Vulkem 350NF should be mixed with a spiral paint mixing paddle at a rate of 500 rpm for a minimum of 5 minutes. For further detail, please refer to the Vulkem 350NF Mixing Guide at www.tremcosealants.com.

5.6 Apply 25-mil (.64 mm) thick detail coat of Vulkem 350NF Roller Grade 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 350NF Roller Grade detail coat on the horizontal surface so it will not show through the finished coating.

5.7 Apply a 25-mil (.64 mm) thick detail coat of Vulkem 350NF Roller Grade 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.

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

6. Coating Application

NOTE: Recommended coverage rates are approximate. Sand loading methods and concrete surface profiles may increase the amount of material required to obtain uniform coverage. Please refer to mixing instructions in Section 5.6.

6.1 BASE COAT: Apply Vulkem 350NF at 64 ft²/gal or 25 wet mils (.64 mm) thick to the entire area to be coated, including over all detail coats, but excluding expansion joints. The recommended method of application is with a notched squeegee. Cross-rolling may follow in the event the coating needs to be leveled. Vulkem 350NF can be applied with a solvent-resistant, medium-nap (3/8" to 1/2"/9.5 mm to 12.7 mm) roller sleeve.

6.2 Allow Vulkem 350NF to cure a minimum of 4 to 6 hr and a maximum of 24 hr. Cure rates depend on temperature and humidity. Refer to cure rate guideline in chart at the end of this document.

6.3 If the Vulkem 350NF has been applied for 24 hr or longer during the ideal temperature application range (see chart on last page of document), it should be cleaned with a damp cloth of Xylene (do not saturate it). Prime coat it with Vulkem Primer #191 QD. We highly recommend that you contact your local Tremco Sales Representative with any questions on the appropriateness of priming.

6.4 Pre-mix the Vulkem 345 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 an appropriate mixer and drill, carefully mix the two components for 1 to 2 minutes, scrape down the sides of the pail and mix an additional 1 to 2 minutes. Use care to not incorporate air into the product. This could potentially lead to the development of blisters during the coating application. For recommendations on mixer options, contact Tremco Technical Services.

6.5 WEAR COAT: Vulkem 345 Wear Coat is applied with a squeegee or medium-nap roller at the rate of 105 ft²/gal (2.6 M²/L) to yield approximately 15 wet mils (0.38 mm) thickness to driving lanes, ramps, turn areas and ticket areas.

6.6 SILICA SAND ADDITION: There are two acceptable methods of applying the silica sand:

Method A- Sand to Refusal

6.6a. Immediately following the application of the Vulkem 345 as indicated in 6.5, broadcast to refusal (flood coat) the material with 20 to 40 mesh (.6 mm to .9 mm) diameter silica sand. Allow this first application to cure about 2 to 4 hr during ideal ambient temperatures and RH. Before proceeding with the second application, sweep or blow off any excess sand. Apply second application of Vulkem 345 over the entire deck at a rate of 105 ft²/gal (2.6 M²/L) to yield approximately 15 wet mils (0.8 mm). Broadcast to refusal (flood coat) the material with 20 to 40 mesh (.6 mm to .9 mm) diameter silica sand. Allow this second application to cure about 2 to 4 hr during ideal ambient temperatures and RH. For a MEDIUM DUTY APPLICATION, proceed to Step 6.7 TOP COAT. Make sure the excess sand is removed prior to beginning Step 6.7.

6.6b. For a HEAVY DUTY APPLICATION, apply an additional coat of Vulkem 345 to the entire deck to be coated including over the previously coated areas. Immediately broadcast the sand following the procedure in 6.6a. Before proceeding with the top coat application sweep or blow off any excess sand. Proceed to Step 6.7 TOP COAT. Make sure the excess sand is removed prior to beginning Step 6.7.

Method B- Backroll

6.6c. Immediately following the application of the Vulkem 345 as indicated in 6.5, broadcast 20 to 40 mesh (.6 mm to .9 mm) diameter silica sand into the wet Vulkem 345. Broadcast the sand at a rate of 15 to 18 lb/gal (1.8 to 2.2 kg/L) of Vulkem 345. Backroll the sand into the coating to ensure all the aggregate is evenly distributed. Allow the first coat of Vulkem 345 to cure about 2 to 4 hr during ideal ambient temperatures and relative humidity. Apply second application of Vulkem 345 over the entire deck at a rate of 105 ft²/gal (2.6 M²/L) to yield approximately 15 wet mils (0.38 mm). Broadcast the sand at a rate of

15 to 18 lb/gal (1.8 to 2.2 kg/L) of Vulkem 345. Backroll the sand into the coating to ensure all the aggregate is evenly distributed and allow to cure about 2 to 4 hr during ideal ambient temperatures and RH. For a MEDIUM DUTY APPLICATION, proceed to Step 6.7 TOP COAT.

6.6d. For a HEAVY DUTY APPLICATION, apply an additional coat of Vulkem 345 over the entire surface of the deck to be coated including the previously coated areas. Immediately following the application of the Vulkem 345, repeat the procedure in 6.6c. Allow this additional coat of Vulkem 345 to cure about 2 to 4 hr during ideal ambient temperatures and RH. Proceed to Step 6.7 TOP COAT.

6.7 TOP COAT: Apply Vulkem 346 Top Coat with a medium-nap, solvent resistant roller sleeve at a rate of 133 to 160 ft²/gal or 10 to 12 wet mils depending on the silica method used.

6.8 The textured properties of the finished deck coating system aid in the system's wear and slip resistance. Tremco recommends a test patch be completed by the applicator and customer acceptance obtained prior to the application.

6.9 Tremco recommends a minimum of 72 hr after the final topcoat has cured before allowing vehicular traffic on the deck, but 5 days is preferable.

7. Clean Up

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

7.2 Clean tools or equipment with Toluene, or Xylene before material cures.

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

8. Material Usage Guidelines

Dymonic 100: For a 1" (25.4 mm) cant bead over a ¼" (6 mm) backer rod, 1 case of sealant for every 48 lf (14.6 M) is required.

Vulkem 350NF Base Coat: When applied at 64 ft²/gal (1.57 M²/L), will yield a mil thickness of 25 wet mils.

Vulkem 345 Wear Coat: When applied at 105 ft²/gal (2.6 M²/L), will yield a mil thickness of 15 wet mils.

Vulkem 346 Top Coat: When applied at 133 to 160 ft²/gal (3.3 to 3.9 M²/L), will yield a mil thickness of 10 to 12 wet mils.

Aggregate: Approximately 15 to 18 lb of approved aggregate will be used with each gallon of Vulkem 345 as prescribed in Section 6.

9. Troubleshooting

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

9.2 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 interfere 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.

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

9.4 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 Tremco Technical Services should this occur.

9.5 If the previous coating application has not fully cured, solvent may become trapped between the coats and lead to large blisters that will most likely be tacky on the backside. Blisters may be cut out and repaired after the surface has been allowed to fully dry.

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 50% RH.

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

10. Weather Impact on Coating Application

10.1 Deck temperatures may affect cure rates even when ambient temperatures are high.

10.2 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 of air over the membrane.

10.3 In extremely dry conditions, with RH less than 50%, even when temperatures are high, cure rates can still be extended.

Quick Reference Application Chart

Layer	Product	Wet Mils	Cure Time*	Square Feet Per Gallon
Base Coat	Vulkem 350NF	25 mils	Minimum of 4 to 6 hr	64 square feet per gallon
Wear Coat #1 (drive lanes, ramps, turns, ticket areas)	Vulkem 345	15 mils	2 to 4 hr	105 square feet per gallon
Wear Coat #2 (entire deck)	Vulkem 345	15 mils	2 to 4 hr	105 square feet per gallon
Top Coat	Vulkem 346	10 to 12 mils	6 to 8 hr	133 to 160 square feet per gallon

*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 350NF	Vulkem 345	Vulkem 346
40°-55° F 4.4°-12.8° C	48	40	40
55°-65° F 12.8°-18.3° C	16 to 24	12 to 24	12 to 24
65°-85° F 18.3°-29.4° C	4 to 6	2 to 4	6 to 8
85° F 29.4° C	< or = 4	2	2 to 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.

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Vulkem Vehicular Traffic Deck Coating System

Recommended Maintenance Procedures

Vulkem 350NF/950NF/951NF
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GENERAL

A. Maintenance of a semi-annual program of THE VULKEM VEHICULAR TRAFFIC DECK COATING SYSTEM will assure that the coating system will continue to provide the service for which it was intended.
B. Maintenance procedures should include:
   a. Periodic physical inspections
   b. Cleaning
   c. Snow removal and ice control (where applicable)
   d. Repairs to deck coating system and periodic replacement
   e. Repairs to structure
   f. Repairs to structure of topcoat

INSPECTIONS

A. The deck coating system is subject to extreme abrasive conditions as well as to physical damage from general use and damage resulting from structural problems. Semi-annual inspections will provide a basis for the proper maintenance work to assure a long life expectancy of the coating system.
B. Semi-annually – make a thorough physical inspection. Such inspections should include (but are not limited to):
   a. Make a physical inspection to determine if there are any areas of excessive wear or physical damage to the coating.
   b. Inspect the underside of the joints for evidence of leaks where possible.
   c. Inspect drains or scuppers to assure there is nothing clogging or blocking them to avoid ponding water on the deck.
   d. Inspect coating surface to determine if there are any substantial structural cracks in the substrates which have caused the coating to crack.
   e. Inspect the areas where beams are resting on columns for evidence of stress cracking or excessive movement.
   f. Inspect the entire structure from the underside for cracks which show evidence of a difference in the plane of the materials on each side of the crack.
   g. Inspect area at juncture of horizontal and vertical sections (parapet walls, planter walls, building walls, etc.) to determine if there has been excessive movement at this point which may have caused the coating to crack.
   h. Inspect coating surface to determine if there are any substantial structural cracks in the substrates which have caused the coating to crack.

CLEANING

A. The use and location of the deck will cause the cleaning frequency to vary. Our recommendation for cleaning is as follows:
   a. Periodically – Sweep or vacuum deck to remove all loose debris and dirt. Truck driven vacuums are not recommended as they may gouge the deck surface.
   b. Semi-annually – Clean deck to remove dirt, debris, oil or grease drippings, black tire marks, battery acid, antifreeze or any other typical car fluids.
      1. Use standard floor cleaning equipment and cleaning chemicals for floors. Requires thorough rinsing to avoid becoming slippery.
      2. High pressure water blast not greater than 1,000 psi at nozzle. *When using this method, maintain at least a 24" distance from the surface, using a continuous back & forth motion.*
      3. Natural citrus peel cleaning products, such as Karna Klean, are recommended.
   c. Avoid the use of strong solvents, bases and acids.
   d. Diluted Simple Green or equal product is also a recommended cleaner. Contact Tremco Technical Services prior to using any chemicals or detergents.

SNOW REMOVAL & ICE CONTROL

A. It should be recognized that piled snow can significantly load the deck surface beyond its design load capacity resulting in significant structural cracks and/or more serious structural damage. Therefore, immediate removal of piled snow is recommended.
B. The use of metal blades should be avoided at all times to prevent physical damage to the coating system.
C. Snow blowers (with rubber blades) and snow brooms are recommended, as opposed to heavy snow removal equipment.
D. Ice should be removed with chemical deicing materials. Acceptable deicing materials could include calcium chloride, potassium chloride or magnesium chloride. Sand, aggregate or rock salt are not acceptable for deicing.

REPAIRS TO DECK COATING MATERIALS

A. All structural damage repairs should be at the direction of a structural engineer.

REPAIRS TO DECK COATING MATERIALS

A. Minor repairs may be made by owner's maintenance people, however, it is suggested that to protect the manufacturers warranty, major repairs should be accompanied by the original approved applicator.

B. Physical damage to the coating system.
   a. Remove loose damaged coating materials to expose a sound substrate.
   b. Thoroughly clean exposed substrate and existing coating surrounding the area with a cloth which has been wet with an approved Tremco solvent.
   c. Allow an approved Tremco solvent to evaporate (1 hour at 75°F, 50% R.H.).
   d. Apply Vulkem Primer 191 or 191 Low VOC Primer in a thin film (450 sq. ft/gal.) to the cleaned, existing coating surrounding the area to be replaced.
   e. Allow the Vulkem Primer 191 or 191 Low VOC Primer to dry until tacky, 10-20 minutes, at standard temperature (75°F, 50% R.H.)
   f. Install the coating system to the original film thickness, extending each coat onto the existing coating, feather-edging the terminating edge of the coating.
   g. Add silica sand between intermediate coat and topcoat per original application recommendations to match surrounding or existing coating.
   h. Allow the repaired area to cure for 72 hours minimum before opening area to traffic, preferably five days.

C. Excessive Wear Areas
   a. Thoroughly clean entire area with a power scrubber using soft bristles. High pressure water blast can also be used not to exceed 1,000 psi at nozzle. When using this method, maintain at least a 24" distance from the surface using a continuous back & forth motion.
   b. Allow area to completely dry.
   c. Scrub area with an approved Tremco solvent but do not puddle.
   d. Allow an approved Tremco solvent to evaporate (1 hour at 75°F, 50% R.H.)
   e. Apply Vulkem Primer 191 or 191 Low VOC Primer in a thin film (450 sq. ft/gal.) to the cleaned, existing coating surrounding the area to be replaced.
   f. Allow Vulkem Primer 191 or 191 Low VOC Primer to dry until tacky, 10-20 minutes, at standard temperature (75°F, 50% R.H.)
   g. Mix and apply one coat of the original intermediate coat, broadcasting recommended aggregate throughout the area according to our published application instructions.
   h. Allow the intermediate coat (with aggregate) to cure per our published application instructions.
   i. In the event the area is subject to extreme abusive wear, repeat item g & h above to provide two coats of the intermediate coat (with aggregate).
   j. Apply Vulkem topcoat to the intermediate coat according to our published application instructions.
   k. Allow repaired area to cure for 72 hours, minimum, before opening area to traffic, preferably five days.
   l. Install line stripping where required, 24 hours after coating is installed.

REPLACE TOPCOAT

A. Replace topcoat per the following procedure:
   a. Thoroughly clean entire area with a power scrubber using soft bristles. High pressure water blast can also be used not to exceed 1,000 psi at nozzle. When using this method, maintain at least a 24" distance from the surface using a continuous back & forth motion.
   b. Allow area to completely dry.
   c. Scrub area with an approved Tremco solvent but do not puddle.
   d. Allow an approved Tremco solvent to evaporate (one hour at 75°F, 50% R.H.).
   e. Apply Vulkem Primer 191 or 191 Low VOC Primer at a rate of 450 square feet per gallon.
   f. Allow Vulkem Primer 191 or 191 Low VOC Primer to dry until tacky, 10-20 minutes, at standard temperature (75°F, 50% R.H.)
   g. Apply topcoat in accordance to our published application instructions.
   h. Add silica sand to rejection or aggregate to match existing surrounding coating texture. Remove loose sand.
   i. Apply topcoat in accordance to our published application instructions.

Note: To assure color conformity, all containers should have the same batch numbers. Boxed pails should be used whenever possible.

   j. Install line stripping where required. Test the stripping paint to ensure it bonds to the cured Vulkem coating and/or use a colored Vulkem topcoat to complete the stripping. The Vulkem topcoat may need to be primed with Vulkem 191 Primer or 191 Low VOC Primer per the Tremco published application instructions.