TREMCO
Construction Products Group

Vulkem 951NF

UV Stable, Low VOC, Two Component, Polyurethane Top Coat

PRODUCT DESCRIPTION

Vulkem 951NF is a UV stable, low VOC, two component, polyurethane top coat. It is suitable for use with the Vulkem range of polyurethane base coats. Different slip ratings can be achieved by adding Tremco's various aggregates to the Vulkem 951NF top coat.

USAGE/PURPOSE

Vulkem 951NF is suitable for use in areas such as:

- ❑ Podiums
- ❑ Recreational Areas
- ❑ Balconies
- ❑ Mechanical/Plant Rooms
- ❑ Lift/Stair Overruns
- ❑ Roofs

**All applications will require a Vulkem base coat be applied prior to the installation of the Vulkem 951NF.*

PACKAGING

- ❑ Vulkem 951NF - 17.4L Kit
- ❑ Part A - 14.2L
- ❑ Part B - 3.2L

COLOUR

- ❑ Vulkem 951NF - Top Coat: Grey and Slate Grey

SHELF LIFE

12 months when stored as recommended in original unopened packaging.

STORAGE

Store in original, undamaged packaging in a clean, dry, protected location.

FEATURES & BENEFITS

- ❑ Tested to AS4654.1 to ensure compliance with the NCC for external waterproofing in Australia.
- ❑ Low VOC and UV stable.
- ❑ Two component top coat, provides a chemically controlled cure, reducing the impact of temperamental weather conditions.
- ❑ Suitable for light to moderate pedestrian foot traffic.
- ❑ Mildew- and fungus- resistance safeguards concrete surfaces against environmental contaminants.
- ❑ Re-coatable and compatible with other Tremco sealants, which enhances waterproofing protection with full system compatibility.

LIMITATIONS

- ❑ Not suitable for use without a Vulkem base coat.
- ❑ Do not apply to wet or contaminated surfaces.
- ❑ Do not use without adequate ventilation.
- ❑ Do not use in submerged conditions.
- ❑ Do not use where a minimum fall of 1:100 cannot be achieved.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VULKEM 951NF
Maximum VOC	Method 310	45 g/L
% Solids by Volume	ASTM D1353	80%
Drying Time @23°C, 50% R.H.	ASTM D1640	4 - 8 hours
Weathering	ASTM D822	N/A
Salt Spray Resistance	ASTM B117	N/A
Accelerated Aging	ASTM D573	No loss of elongation or tensile strength
Hardness	ASTM D2240	50 Shore D
Abrasion Resistance (1,000 cycles)	ASTM D573	33mg - Pass
Bond Strength	ASTM C794	Concrete – 92 N Plywood – 80 N
Cyclic Movement	CSIRO moving joint test	Pass
Elongation at Break	AS4654.1 Appendix A	199%
Elongation	ASTM D412	145%
Heat Ageing	AS/NZ S4858	17.4 MPa, 143%
Temperature Resistance	AS4654.1 Clause 2.6	Pass
Ultraviolet Resistance	AS4654.1 Table A4	18.3 MPa, 196%
Tensile Strength	AS4654.1 Table A4	31.03 MPa, 199%
Durability	AS4654.1 Table A4	Pass
Water Vapour Transmission Rate	ASTM E96	8.13 g/m^2/24hrs

** Drying times will vary depending on ambient temperature and relative humidity*

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SUBSTRATE PREPARATION FOR CONCRETE SURFACES

Please refer to Vulkem base coat Technical Data Sheet for 'SUBSTRATE PREPARATION FOR CONCRETE SURFACES'.

SUBSTRATE PREPARATION FOR ALL METAL SURFACES

Please refer to Vulkem base coat Technical Data Sheet for 'SUBSTRATE PREPARATION FOR ALL METAL SURFACES'.

JOBSITE MATERIALS

Recommended materials and their uses are as follows:

- ❑ Vulkem 171 Primer: A one-part, film-forming primer to be used on porous surfaces.
- ❑ TREMprime EP Primer: A 100% solids, two component epoxy primer recommended for use on porous substrates and is also used as a compatible tie-coat to create connectivity between otherwise incompatible membranes.
- ❑ TREMproof 200EC Primer: A low-VOC, two component, water based epoxy primer to be used on high moisture concrete slabs (4.5% moisture or above as per a Tramex CME Moisture Meter).
- ❑ Vulkem 191QD Primer: A low-VOC compliant, one-part, interlaminar primer for use in applying a fresh coat of Vulkem coating or sealant after preceding coat has been exposed to rain or for periods of time greater than 24 hours.
- ❑ TREMprime Non-Porous Primer: A low-VOC primer for use in applying urethanes to non-porous substrates such as metal, PVC and glass.
- ❑ Dymonic 100: A one-part, exceptional movement (+100/-50%) moisture-curing, gun grade polyurethane sealant for use in precast, masonry, expansion joints, control joints and for use in forming cant/fillet bead.
- ❑ TREMflex 50: A one-part, high movement (+/-50%) moisture-curing, gun grade polyurethane sealant for use in precast, masonry, control joints and for use in forming cant/fillet bead.
- ❑ TREMproof Aggregate: Silica sand which imparts a textured finish.
- ❑ Vulkem 360: Two component, low VOC, water catalysed, polyurethane base coat.
- ❑ Vulkem 350R: Rollable grade, single component, low VOC, polyurethane base coat.
- ❑ Vulkem 350SL: Self leveling grade, single component, low VOC, polyurethane base coat.
- ❑ Vulkem NEM: Rollable grade, single component, polyurethane base coat.

USAGE

The following is a guide to estimate material usage: This does not account for material wastage on-site or reduced coverage due to substrate porosity/aggregate profile:

PRODUCT	COVERAGE RATE		THICKNESS	
Vulkem 951NF	3.23m²/L	56.13m²/ Pail	0.31mm WFT	0.25mm DFT

PRIMING

Please refer to Vulkem base coat Technical Data Sheet for 'PRIMING'.

DETAIL WORK

Please refer to Vulkem base coat Technical Data Sheet for 'DETAIL WORK'.

COATING APPLICATION

Option 1. Maintenance Foot Traffic or Light Intermittent Foot Traffic

1. Pre-mix the Vulkem 951NF Part A with a suitable electric paddle mixer at a rate of 500rpm for a minimum of 2 minutes, ensuring there is no settlement at the base of the drum.
2. Empty the contents of the Part B (curative) into Part A. Using a suitable electric paddle mixer, mix at a rate of 500rpm for 3 minutes, ensuring there is no streaks or striations.
3. Apply Vulkem 951NF (as per the USAGE table) to the entire area to be coated, including overall 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 951NF can be applied with a solvent-resistant, medium-nap (9.5mm to 12.7mm) roller sleeve.
4. If a further 'non-slip' finish is required, whilst Vulkem 951NF is still wet, broadcast TREMproof Aggregate to achieve the required slip rating and back-roll.
5. The textured properties of the finished deck coating system aid in the systems wear and slip resistance. Tremco recommends a test patch be completed by the applicator and customer acceptance obtained prior to the application.
6. Do not open to foot traffic for a minimum of 24 hours following full cure of Vulkem 951NF.

Option 2. Light Pedestrian Foot Traffic

1. Pre-mix the Vulkem 951NF Part A with a suitable electric paddle mixer at a rate of 500rpm for a minimum of 2 minutes, ensuring there is no settlement at the base of the drum.
2. Empty the contents of the Part B (curative) into Part A. Using a suitable electric paddle mixer, mix at a rate of 500rpm for 3 minutes, ensuring there is no streaks or striations.
3. Apply Vulkem 951NF (as per the USAGE table) to the entire area to be coated, including overall 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 951NF can be applied with a solvent-resistant, medium-nap (9.5mm to 12.7mm) roller sleeve.
4. Apply a second coat of Vulkem 951NF (as per the USAGE table) over the existing Vulkem 951NF.
5. If a further 'non-slip' finish is required, whilst Vulkem 951NF is still wet, broadcast TREMproof Aggregate to achieve the required slip rating and back-roll.
6. The textured properties of the finished deck coating system aid in the systems wear and slip resistance. Tremco recommends a test patch be completed by the applicator and customer acceptance obtained prior to the application.
7. Do not open to foot traffic for a minimum of 24 hours following full cure of Vulkem 951NF.

Option 3. Moderate Pedestrian Foot Traffic

1. Pre-mix the Vulkem 951NF Part A with a suitable electric paddle mixer at a rate of 500rpm for a minimum of 2 minutes, ensuring there is no settlement at the base of the drum.
2. Empty the contents of the Part B (curative) into Part A. Using a suitable electric paddle mixer, mix at a rate of 500rpm for 3 minutes, ensuring there is no streaks or striations.
3. Apply Vulkem 951NF (as per the USAGE table) to the entire area to be coated, including overall 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 951NF can be applied with a solvent-resistant, medium-nap (9.5mm to 12.7mm) roller sleeve.
4. Immediately after applying Vulkem 951NF, broadcast TREMproof 16/30 Aggregate to refusal (flood coat). Allow the Vulkem 951NF to cure for 4 - 8 hours or until it is tacky but firm and will not be displaced during excess sand removal.
5. Sweep off any excess sand that is not well bonded to the Vulkem 951NF membrane using a stiff bristled broom.
6. Apply a second coat of Vulkem 951NF (as per the USAGE table) over the existing Vulkem 951NF that had previously received the TREMproof Aggregate to refusal (flood coat).
7. If a further 'non-slip' finish is required, whilst Vulkem 951NF is still wet, broadcast TREMproof Aggregate to achieve the required slip rating and back-roll.
8. The textured properties of the finished deck coating system aid in the systems wear and slip resistance. Tremco recommends a test patch be completed by the applicator and customer acceptance obtained prior to the application.
9. Do not open to foot traffic for a minimum of 24 hours following full cure of Vulkem 951NF.

CLEAN UP

- ❑ Clean all adjacent areas to remove any stains or spills with Tremco Xylol.
- ❑ Clean tools or equipment with Tremco Xylol before material cures.
- ❑ Clean hands by soaking in hot, soapy water, then brushing with a stiff-bristle brush.

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 Representative:

1. When a deck contains too much moisture, the moisture may change into a vapour, 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.
2. 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.
3. 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 should this occur.
4. 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 has been allowed to fully dry.

WEATHER IMPACT ON COATING APPLICATION

This section discusses the impact of applying these coatings outside the ideal temperature application range of 18 to 30°C at 50% RH.

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.
2. Storing materials at cooler or warmer temperatures than ideal, will affect the handling and curing characteristics of the materials.
3. Substrate temperatures may affect cure rates even when ambient temperatures are high.
4. 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.
5. In extremely dry conditions, even when temperatures are high, cure rates can still be extended.

Approximate Cure times in Hours at 50% RH.	Vulkem 951NF
4.4°-12.8° C	12 to 48
12.8°-18.3° C	8 to 12
18.3°-29.4° C	4 to 8
29.4° C	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.

HEALTH & SAFETY PRECAUTIONS

The Safety Data Sheet (SDS) must be read and understood prior to use.

TECHNICAL SERVICE

Tremco CPG Australia Pty Ltd has a team of Representatives who provide assistance in the selection and specification of products. For more detailed information or service and advice, call Customer Service on (02) 9638 2755 or fax (02) 9638 2955.

GUARANTEE/WARRANTY

Tremco CPG Australia Pty Ltd products are manufactured to rigid standards of quality. Any product which has been applied (a) in accordance with Tremco CPG Australia written instructions and (b) in any application recommended by Tremco CPG Australia, but which is proved to be defective, will be replaced free of charge.

Any information provided by Tremco CPG Australia in this document in relation to Tremco CPG Australia's goods or their use is given in good faith and is believed by Tremco CPG Australia to be appropriate and reliable. However, the information is provided as a guide only, as the actual use and application will vary with application conditions which are beyond our control. Tremco CPG Australia makes no representation, guarantee or warranty relating to the accuracy or reliability of the information and assumes no obligation or liability in connection with the information. To the extent permitted by law, all warranties, expressed or implied are excluded.

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