TREMCO
Construction Products Group

TREMproof P85

Low VOC, Two-Component, Rapid Curing, 100% Solids, Spray Applied, Hybrid Polyurea Waterproofing Membrane

PRODUCT DESCRIPTION

TREMproof P85 is a 100% solids, spray applied hybrid polyurea waterproofing membrane that allows for rapid installation, and assists with accelerated construction schedules.

TREMproof P85 is not UV stable and will yellow and become brittle if exposed to sunlight for a prolonged period of time. As such, if exposed to UV, Tremco required either Vulkem 346 or Vulkem 951NF as a UV stable top coat.

USAGE/PURPOSE

TREMproof P85 is an ideal option for providing a rapid cure waterproof membrane to a variety of application areas, such as:

- ❑ Podiums
- ❑ Roof Tops
- ❑ Balconies
- ❑ Retaining Walls/ Basements (Positive Side Waterproofing)
- ❑ Cut & Cover Tunnels
- ❑ Planters
- ❑ Non Potable Water Tanks

PACKAGING

- ❑ 420kg Kit - (Part A 220kg Drum; Part B 200kg Drum)
- ❑ 42kg Kit - (Part A 22kg Pail; Part B 20kg Pail)

COLOUR

- ❑ Grey
- ❑ Special colours available upon request

SHELF LIFE

12 months for 420kg Kit and 6 months for 42kg Kit when stored as recommended in original unopened packaging.

LIMITATIONS

- ❑ TREMproof P85 is not UV stable
- ❑ Use with adequate ventilation
- ❑ Do not apply to damp or contaminated surfaces



STORAGE

- ❑ Store in original, undamaged packaging in a clean, dry, protected location
- ❑ Closed containers should be stored out of direct sunlight, at a temperature between 18°C and 25°C
- ❑ Part A and Part B should be stored seperately
- ❑ Care should be taken to prevent water contamination into Part A of TREMproof P85. Water contamination may cause a build-up of pressure in Part A drums

FEATURES & BENEFITS

- ❑ Successfully tested to AS4654.1, ensuring compliance with the deemed to satisfy criteria of the National Construction Code for external waterproofing
- ❑ Extremely fast curing allows for application when rainfall may be imminent
- ❑ Solvent free, low VOC product
- ❑ Monolithic application minimises the chance for water ingress after the membrane has been applied
- ❑ 100% Solids helps ensure a high level of quality control during installation
- ❑ 1:1 Mix Ratio helps contractors ensure they have an accurate mix ratio to ensure the product cures appropriately

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUES
Maximum VOC	Method 310	0 g/L
% Solids by Volume	ASTM D1353	100%
Elongation at Break	AS4654.1 Appendix A	307%
Tensile Strength	AS4654.1 Appendix A	6.15 MPa
Cyclic Movement	CSIRO Moving Joint Test	Pass, Class III
Durability	AS4654.1 Table A4	Pass
Heat Ageing	AS4858	Pass, 340%, 7.21 MPa
Temperature Resistance	AS4654.1 Clause 2.6	Pass, 465%, 8.64 MPa
Water Vapour Transmission Rate	ASTM E96	16.1g/m^2/24 hours
Hardness	ASTM D1737	85 +- 5 Shore A
Solid Density (22°C)		1.1g/ml
Tear Strength	ASTM D624 (Die C)	50 N/mm
Bond Strength (average peel strength)	ASTM C794	Concrete = 119 N - Plywood = 103 N
Taber Abrasion - *H22 wheel 1kg per 1000 cycles*	ASTM D4060	200 mg loss

TREMproof P85

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SUBSTRATE PREPARATION FOR CONCRETE SURFACES

1. Concrete shall be water-cured and attain a 20 MPa minimum compressive strength. Moisture content in the concrete must be lower than 4.5% as measured using a Tramex CME Moisture Meter. Depending on concrete construction and job site location, additional concrete testing may be required. Please contact your local Tremco Representative.
2. Concrete shall be free of any laitance which may inhibit sufficient adhesion. Removal of laitance can be achieved through a variety of physical abrasion methods, such as, shot-blasting (preferred method) sandblasting or grinding.
3. Concrete surface shall be properly cleaned so that the surface to receive the coating, sealant or liquid-applied flashing is free of mould, paint, sealers, coatings, curing agents, loose particles, and other contamination or foreign matter that may interfere with the adhesion.
4. Shrinkage cracks in the concrete surface that are 1.6mm wide or greater shall be ground out to a minimum 6mm wide x 12mm deep and treated according to the instructions in "Detail Work" section.
5. Structural cracks regardless of width shall be ground out to a minimum 6mm wide x 12mm deep and treated according to the instructions in "Detail Work" section.
6. Spalled areas shall be cleaned free of loose contaminants prior to repair. Because jobsite conditions vary, it is recommended that you contact your local Tremco Representative. Depending on the substrate and depth of the spalled areas, a Eucocrete repair product will be recommended as the best method of repair.
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.
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 using TREMprime EP.
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 (1:100) as per AS4654.2. Drains should be detailed as instructed below:
   Cut a 6mm wide x 12mm deep 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.
10. If the project is a restoration deck, old sealant and membrane material shall be removed. The joint interface will require a thorough wire brushing, grinding, sandblasting, solvent washing and/or primer.

SUBSTRATE PREPARATION FOR METAL SURFACES

All surfaces shall be sand-blasted to meet the requirements in AS1627.4, class 2.5 for "Near White Metal".

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-part 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.
- ❑ TREMproof Aggregate: Silica sand which imparts a textured finish.

USAGE

The following is a guide to estimate material usage:

Product	Coverage Rate		Thickness	
TREMproof P85	0.67m²/L	42kg Kit - 28m²/Kit 420kg Kit - 280m²/Kit	1.5mm WFT	1.5mm DFT
TREMproof P85 (Tanks)	0.5m²/L	42kg Kit - 21m²/Kit 420kg Kit - 210m²/Kit	2.0mm WFT	2.0 DFT
TREMproof P85 (Planter Boxes)	0.5m²/L	42kg Kit - 21m²/Kit 420kg Kit - 210m²/Kit	2.0mm WFT	2.0mm DFT
Vulkem 346	2.5m²/L	47.25m²/ Pail	0.40mm WFT	0.25mm DFT
Vulkem 951NF	3.23m²/L	56.13m²/ Pail	0.31mm WFT	0.25mm DFT

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

PRIMING

Note: Do not apply primer, sealants or membranes to a frosty, damp or wet surface or when substrate temperature is below 10°C or the surface temperature is above 40°C. Cure times as stated below are based upon standard ambient conditions of 23°C, 50% RH. A decrease in ambient temperature and humidity will significantly lengthen the cure time.

- ❑ For low moisture (<4.5% moisture as per a Tramex CME Moisture Meter) porous substrates, Tremco suggests using Vulkem 171 Primer.
- ❑ For low moisture (<4.5% moisture as per a Tramex CME Moisture Meter) porous substrates with a poor finish, Tremco suggests using Vulkem TREMprime EP Primer.
- ❑ For high moisture (>4.5% moisture or above as per a Tramex CME Moisture Meter) porous substrates, Tremco suggests using TREMproof 200EC.
- ❑ For non-porous substrates, Tremco suggests using TREMprime Non-Porous Primer.

***Note:** Vulkem 171 primer is not suitable for submerged applications. TREMproof MPE or TREMproof 200EC must be used in these situations.

DETAIL WORK

Note: Do not apply sealant or coatings to a frosty, damp or wet surface or when substrate temperature is below 10°C or the surface temperature is above 40°C. Cure times as stated below are based upon standard ambient conditions of 23°C, 50% RH. A decrease in ambient temperature and humidity will significantly lengthen the cure time.

1. Lay a 6mm diameter backer rod or bond breaker tape into the corner at the juncture of all horizontal and vertical surfaces, such as floor to wall junctions, hobs, columns, or penetrations through the deck. Apply a bead of Dymonic 100 25mm wide over the backer rod or bond breaker tape. Tool the sealant bead to form a 45° fillet. 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 or bond breaker tape is only required for moving joints.
2. Install a backer rod, 3mm to 6mm 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:

   a. For joints 6mm to 12mm wide, the depth to width ratio should be equal. The minimum joint size is 6mm x 6mm.

   b. Joints 12mm wide or greater should have a sealant depth to width ratio of 1:2.
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 Representative.
4. Tremco recommends that all detail sealant should be allowed to fully cure prior to installation of the TREMproof P85 membrane.
5. Apply a detail coat of TREMproof P85 150mm wide centered over all floor/ wall joints, untreated cracks, all routed and sealed cracks and over all cold joints. These joints should be 'double detailed' to allow for a minor degree of movement. Contact your local Tremco Representative, for recommended details.
6. Apply a strip of masking tape or duct tape to the vertical sections, at a height that complies with the requirements of AS4654.2, but a minimum of 40mm above the top edge of the sealant fillet to provide a neat termination of the vertical detail coat.

COATING APPLICATION

TREMproof P85 Base Coat:

1. Part B should be mixed each day prior to ensure a homogenous mix consistency, care should be taken to ensure that the product is not over mixed, as air entrainment will affect the cured physical properties of TREMproof P85. Part A does not need to be mixed prior to use.
2. Mixing by way of 1:1 mix ratio (by volume) in heated plural component spray equipment such as Graco E-10 or EXP-2.
3. Apply TREMproof P85 in multiple passes to a total yield of 1.5mm WFT/DFT to the entire area to be coated, including overall detail coats, but excluding expansion joints.
4. Re-coat time is a minimum of 4 minutes and a maximum of 3 hours. If time between re-coats exceeds 3 hours, TREMproof P85 must be primed with Vulkem 191 QD Primer. Please contact your local Tremco Representative when overcoating outside the recommended windows.

MACHINE SETTINGS:

- ❑ Dynamic Spray Pressure: > 2000 psi (dependant on equipment)
- ❑ Primary Heater Temperatures: 65°C (same temperature for both components)
- ❑ Hose Temperature: as per Primary Heater setting

Vulkem 346 or Vulkem 951NF Top Coat (if required*):

**TREMproof P85 is not UV stable and will yellow and become brittle if exposed to sunlight for a prolonged period of time. As such, if exposed to UV, Tremco requires either Vulkem 346 or Vulkem 951NF as a UV stable top coat.*

Overcoat time is a minimum of 4 minutes and a maximum of 3 hours. If time between re-coats exceeds 3 hours, TREMproof P85 must be primed with Vulkem 191 QD Primer. Please contact your local Tremco Representative when overcoating outside the recommended windows.

Vulkem 346 TOP COAT:

1. Vulkem 346 should be mixed with a suitable electric paddle mixer at a rate of 500rpm for a minimum of 3 minutes, ensuring there is no settlement at the base of the drum.
2. Apply Vulkem 346 at rate of 2.5m^2/L or 0.40mm WFT 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 350 can be applied with a solvent-resistant, medium-nap (9.5mm to 12.7mm) roller sleeve.
3. If a 'non-slip' finish is required, whilst Vulkem 346 is still wet, broadcast TREMproof Aggregate to achieve the required slip rating and backroll.
4. 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.
5. Do not open to foot traffic for a minimum of 24 hours following full cure of Vulkem 346.

Vulkem 951NF TOP COAT:

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 at rate of 3.23m^2/L or 0.31mm WFT 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 'non-slip' finish is required, whilst Vulkem 951NF is still wet, broadcast TREMproof Aggregate to achieve the required slip rating and backroll.
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.

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 soakng 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 concretemembrane 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 Technical Services 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. Deck temperatures may affect cure rates even when ambient temperatures are high.
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 of air over the membrane.
4. In extremely dry conditions with RH less than 50%, even when temperatures are high, cure rates can still be extended.

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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