TREMCO

www.tremco.com.au

TREMproof P85

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

6 months when stored as recommended in original unopened packaging.

STORAGE

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

LIMITATIONS

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

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 4 Moisture Meter. Depending on concrete construction and job site location, additional concrete testing may be required. Please contact your local Tremco Representative.

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUES
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^{0}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

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2. Concrete substrate temperature must be a minimum of 3°C above dew point, at the time of application. Ideally, substrate temperature should be above 18°C to achieve optimal adhesion.
3. 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, shotblasting (preferred method) sandblasting or grinding. In line with best practice, Tremco suggests a minimum CSP3 is achieved.
4. 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.
5. 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.
6. 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.
7. 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 TREMcrete repair product will be recommended as the best method of repair.
8. 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.
9. 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 levelled and made smooth by applying a coat of sand-filled epoxy using TREMcoat MPE.
10. 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.

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:

- ❑ TREMcoat MPE: High strength epoxy floor coating that is specially formulated to serve a multitude of applications on a construction project.
- ❑ Vulkem 171 Primer: A one-part, film-forming primer to be used on porous surfaces.
- ❑ 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.
- ❑ Vulkem 346: A one-part, UV resistant, aliphatic polyurethane top coat providing a colour-stable, weatherproof, slip resistant wearing surface.
- ❑ Vulkem 951NF: A two-part, low VOC, UV resistant, aliphatic polyurethane top coat providng a colour-stable, weatherproof, slip resistant wearing surface.
- ❑ TREMproof Aggregate: Silica sand which imparts a textured finish for an excellent anti-slip solution.

USAGE

The following is a guide to estimate material usage:

Product	Coverage Rate		Thickness	
TREMcoat MPE	6m²/L	48m²/8L Kit	0.2mm WFT	0.2mm DFT
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	2.0mm DFT
Vulkem 346	2.6m²/L	49m²/Pail	0.38mm WFT	0.25mm DFT
Vulkem 951NF	3.3m²/L	57m²/Pail	0.30mm 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

- ❑ TREMproof P85 requires TREMcoat MPE high strength epoxy as the primer to ensure appropriate adhesion to the substrate.
- ❑ Apply TREMcoat MPE as per products technical data sheet.
- ❑ TREMcoat MPE should be sand seeded to provide a mechanical key for subsequent coatings.
- ❑ Please contact your local Tremco Representative when overcoating outside the recommended windows.
- ❑ Where required, Vulkem 171 primer may be used with TREMproof P85, in accordance with the instruction on the Vulkem 171 primer product data sheet.
- ❑ Vulkem 171 primer may be overcoated after the solvent has flashed off, and it has become tacky (< 1 hour).
- ❑ Vulkem 171 primer must be overcoated prior to fully curing, ideally within 4-6 hours (temperature dependant).

*Note: Vulkem 171 primer is not suitable for submerged applications. TREMcoat MPE must be 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 4°C or the surface temperature is above 43°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 or TREMflex 50 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

1. After mixing, apply the Vulkem 346 with a medium-nap, solvent-resistant roller sleeve at a rate of 2.6m²/L to yield approximately 0.38 mm WFT. Remove excess material from the roller by using a screen in the pail to avoid puddles or ponding.
2. For pedestrian areas where a slip resistant finish is required:
   a. Apply the Vulkem 346 in sections that can be easily reached for back rolling. Immediately after applying the Vulkem 346, broadcast 0.4 to 0.5 mm diameter silica sand into the wet Vulkem 346 and back roll to fully encapsulate the aggregate.
   b. For a moderately and more uniform textured finish, use 1.8 to 2.2 kg of sand per litre of Vulkem 346, and then install a second coat of Vulkem 346 to lock in the aggregate. Back rolling is necessary regardless of how the sand is broadcast (i.e. hand, seed spreader, etc.) to ensure that all the sand is completely encapsulated into the liquid.
3. Allow the system to cure a minimum 24 hours prior to foot traffic (25°C and 50% RH). Please contact your local Tremco Representative for specific site requirements.

Vulkem 951NF

1. After mixing, apply the Vulkem 951NF with a medium-nap, solvent-resistant roller sleeve at a rate of 3.3m²/L to yield approximately 0.30 mm WFT. Remove excess material from the roller by using a screen in the pail to avoid puddles or ponding.
2. For pedestrian areas where a slip resistant finish is required:
   a. Apply the Vulkem 951NF in sections that can be easily reached for back rolling. Immediately after applying the Vulkem 951NF, broadcast 0.4 to 0.5 mm diameter silica sand into the wet Vulkem 951NF and back roll to fully encapsulate the aggregate.
   b. For a moderately and more uniform textured finish, use 1.8 to 2.2 kg of sand per litre of Vulkem 951NF, and then install a second coat of Vulkem 951NF to lock in the aggregate
3. For light vehicular traffic only:
   a. Apply a 0.325mm coat of Vulkem 951NF, and broadcast aggregate at a rate of 1.8 to 2.2 kg to refusal.
   b. Once cured, install a second 0.325mm coat of Vulkem 951 NF to encapsulate the aggregate
4. Allow the system to cure a minimum 12 hours prior to foot traffic and 24 hours for vehicular traffic (25°C and 50% RH) Please contact your local Tremco Representative for specific site requirements.

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 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.

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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 5 to 35°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 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 products are manufactured to rigid standards of quality. Any product which has been applied (a) in accordance with TREMCO written instructions and (b) in any application recommended by TREMCO, but which is proved to be defective, will be replaced free of charge.

Any information provided by TREMCO in this document in relation to TREMCO's goods or their use is given in good faith and is believed by TREMCO 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 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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