

PRODUCT DESCRIPTION

TREMproof FBM Plus is a high-performance, pre-applied waterproofing membrane composed of a robust high-density polyethylene (HDPE) film, a high-tack pressure-sensitive adhesive and a weather-resistant protective coating. The membrane is designed to form a continuous and integral bond with freshly placed concrete, creating a durable barrier that resists water ingress. It also provides protection against moisture and ground gases, including methane and radon, while preventing lateral migration.

TREMproof FBM Plus is release-liner free for efficient installation and incorporates dual adhesive seam technology that bonds adhesive-to-adhesive at overlaps. This feature delivers watertight joints and dependable performance in demanding site conditions without the need for specialised tools, heat, or power. Environmental performance supported by third-party verified EPD in accordance with EN 15804.

USAGE/PURPOSE

TREMproof FBM Plus is designed for below-grade waterproofing in demanding civil, industrial and infrastructure projects, including:

- ❑ Structural slabs and retaining walls of basements.
- ❑ Underground structures such as utility tunnels, transportation tunnels and mined or open-cut subway constructions.
- ❑ High-specification infrastructure areas and mission-critical facilities such as data centres.
- ❑ Underground spaces, integrated pipe galleries and other below-grade structures.

COLOUR

White

SHELF LIFE

12 months when stored as recommended in original, unopened packaging.

STORAGE

Store in original, undamaged packaging in a clean, cool, dry and protected location. Avoid contact with acids, alkalis, oils and organic solvents.



PACKAGING

Roll size: 1.2 m × 20 m

Roll weight: 42 kg/roll

ROLL COVERAGE

Effective Coverage: ≈ 24 m² per roll

Side Lap: 80 mm | End Lap: 80 mm

FEATURES & BENEFITS

- ❑ Forms an integral bond with concrete, verified through adhesion testing to concrete substrates
- ❑ Prevents lateral water migration, with no lateral movement observed under hydrostatic pressure testing.
- ❑ High tensile strength, elongation and puncture resistance confirmed through independent testing.
- ❑ Manufactured without harmful chemicals; environmentally friendly, energy-efficient and compliant with green building requirements.
- ❑ Fast and simple installation by loose-lay method with cold-applied self-adhesive overlap seams; requires no heat or special tools.
- ❑ Dual adhesive seam system providing continuous watertight bond;

TYPICAL PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	VALUE, UNIT
Membrane Thickness	ASTM D3767	1.39 mm
Tensile Strength (Longitudinal)	ASTM D412	31.13 MPa
Tensile Strength (Transverse)	ASTM D412	28.31 MPa
Elongation at Break (Longitudinal)	ASTM D412	959%
Elongation at Break (Transverse)	ASTM D412	1160%
Crack Bridging	ASTM C1305	No crack observed at -23 °C after 100 cycles
Water Vapour Transmission Rate	ASTM E96	0.0043 g/m ² ·hr
Puncture Resistance	ASTM E154	1266 N
Peel Strength to Concrete	ASTM D903	2333 N/m (2.33 N/mm)
Hydrostatic Pressure Resistance	ASTM D5385	7 bar, no leakage
Lateral Water Migration Resistance	ASTM D5385 based method	No lateral water migration at 7 bar
Watertightness	BS EN 1928 Method B	7 bar for 24 h, no leakage
Resistance to Deformation Under Load	BS EN 13967 Annex B	-2.26%
Flexibility at Low Temperature	ASTM D1970, Section 7.6	No visible cracking at -29 °C
Water Absorption	ASTM D570	0.16%
T-Joint / Overlap Hydrostatic Resistance	ASTM D5385	7 bar, no leakage

- overlap system demonstrated resistance to hydrostatic pressure.
- Suitable for installation in a range of site conditions, including wet substrates and low temperatures (subject to installation limits).
- Resistant to hydrostatic pressure – no leakage observed under high-pressure testing (up to 7 bar).
- Watertight under sustained pressure exposure conditions.
- Provides resistance to ground gases including methane and radon
- Resistant to chemical exposure including salts and sulphates typically found in soils.

INSTALLATION

1. Ensure substrates are stable, level and smooth, with gaps or voids ≤ 12 mm. Grout around penetrations for stability.
2. Horizontal surfaces must be free of loose debris and sharp protrusions. Compact soil or crushed stone to prevent movement. Remove standing water.
3. Vertical surfaces must be supported with concrete, plywood, insulation, or approved facing. Board systems should be closely butted (≤ 12 mm misalignment). Use bridging material for voids ≤ 50 mm prior to membrane installation.
4. Membrane features a Dual Adhesive Seam system at sheet edges. This creates a strong adhesive-to-adhesive bond along side laps for a continuous, watertight seal without heat or special tools.
5. For horizontal applications, roll membrane HDPE side down. Stagger end laps, align succeeding sheets with 80 mm side overlap and roll firmly. Installation temperature 5 °C.
6. For vertical applications, mechanically fasten within 50 mm of the leading edge, overlap succeeding sheets by 80 mm and roll firmly. Do not use conventional two-sided formwork.
 - Overlap all roll ends by 80 mm. Seal end laps using TREMproof FBM Plus DS Tape, rolled firmly and finish with TREMproof FBM Plus Cover Tape. Ensure surfaces are clean. Tape cold-bonding should not be performed below 5 °C. Ensure the tape has been stored for at least 24 hours under conditions maintaining this temperature before installation.
 - Inspect before placing reinforcement or formwork. Clean and repair small punctures with tape, larger punctures with membrane patches extending 150 mm beyond damage, sealing edges with tape.
7. Place and compact concrete carefully; concrete placement timing to be determined based on-site conditions; supplier guidance indicates up to ~42 days depending on exposure conditions. Extended exposure should be subject to project-specific assessment.
8. Strip formwork only after concrete reaches ≥20 N/mm².
9. After formwork removal and prior to backfilling, protect all exposed TREMproof FBM Plus membrane with an approved protective course to prevent damage.
10. Do not install below 5 °C; installation conditions to follow manufacturer guidelines.

JOBSITE MATERIALS

- **TREMproof FBM Plus DS Tape:** A double-sided, high-performance adhesive tape for sealing membrane end laps, details and repairs. Designed to bond strongly to TREMproof FBM Plus membranes.
- **TREMproof FBM Cover Tape:** A single-sided adhesive tape for covering and protecting seams, edges and repairs on TREMproof FBM Plus membranes.
- **Paraseal Permanent Seam Tape:** A rubberised-bitumen seam tape used for sealing HDPE liner seams and reinforcing seam and detail areas.
- **Suitable Euclid Grout:** Cementitious repair and detailing mortars for pile caps, concrete make-good areas and local concrete repairs.
- **TREMstop Hydro Mastic:** A one-component, solvent-free polyurethane-based adhesive and sealing compound that swells in contact with water for sealing joints and pipe penetrations.

- **TREMproof 560A:** A positive-side, post-applied waterproofing membrane for vertical wall faces, below-grade structures and waterproofing tie-ins.
- **TREMseal Bandage:** A flexible sealing tape for movement joints, transition joints and areas requiring flexible waterproofing continuity.
- **Dymonic 100:** A high-movement polyurethane sealant for expansion joints, control joints, perimeter joints and general construction joint sealing.
- **TREMstop Hydrophilic Waterstop:** A hydrophilic waterstop that expands in contact with water for sealing construction joints and preventing water ingress.
- **TREMstop PVC Waterstops:** Specially compounded PVC waterstops suitable for construction joints, expansion joints and water-retaining concrete structures.
- **TREMproof XPS Combi:** A thermal insulation board for below-grade applications requiring insulation and protection to the waterproofing system.
- **TREMboard:** A protection board for protecting waterproofing membranes from mechanical damage during backfilling and construction.
- **Tremco Drainage Cell:** A drainage and protection board for creating a drainage plane and relieving water pressure against below-grade waterproofing systems.

SPECIFICATION CLAUSE

Supply and install TREMproof FBM Plus fully bonded HDPE waterproofing membrane, consisting of a HDPE film, pressure-sensitive adhesive layer and weather-resistant protective coating, providing continuous adhesion to poured concrete to prevent lateral water migration and resist aggressive ground chemicals. Installation shall be in accordance with the manufacturer Tremco's specification and instruction, including surface preparation and correct lap joint treatment using TREMproof FBM Plus DS Tape and TREMproof FBM Cover Tape, with application temperature not lower than 5 °C. All exposed membrane after formwork removal shall be protected with a Tremboard with Geotextile protection board prior to backfilling. The membrane shall have a tensile strength of 16 MPa, elongation at break of 400%, overlap peel strength greater than 0.8 N/mm and post-pouring concrete bond strength greater than 1.0 N/mm.

LIMITATIONS

- Do not apply when ambient or substrate temperature is below 5 °C, as this may reduce bonding performance. This minimum temperature must also be maintained for at least 24 hours after storage, installation and completion.
- Surfaces must be clean, smooth and free of standing water before application.
- The tape should be pressed firmly along the lap area using a pressure roller to ensure full bonding.
- Avoid installation during rain or snow to prevent compromised bonding.

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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