



TREMPROOF FBM PLUS METHOD STATEMENT

The Pacific’s leading construction products brands



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TREMproof FBM Plus

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1. Product Overview

TREMproof FBM Plus is a pre-applied HDPE waterproofing membrane that bonds directly to freshly placed concrete, forming a continuous barrier against water ingress and lateral moisture migration.

The membrane consists of three layers:

- **High-density polyethylene (HDPE) film:** faces the ground or water source. Provides puncture resistance and chemical protection.
- **Pressure-sensitive adhesive:** Faces the concrete pour. Bonds integrally to the concrete as it cures.
- **Weather-resistant protective coating:** Protects the adhesive layer during the pre-pour exposure period.

TREMproof FBM Plus is release-liner free. Its dual adhesive seam technology bonds adhesive to adhesive at overlaps, delivering watertight joints without heat, power, or specialised tools. The product resists ground gases, including methane and radon.

2. Primary Applications

- Structural slabs and retaining walls of basements.
 - Underground structures including utility tunnels, transportation tunnels and open-cut subway construction.
 - Mission-critical facilities such as data centres.
 - Integrated pipe galleries and other below-grade structures.
- Install the HDPE face toward the ground or water source. Install the coated adhesive face toward the freshly placed concrete. The membrane is suitable for use above and below the water table.

3. Application Procedures

3.1 Tools and Equipment

Ensure all tools and equipment are on site and in serviceable condition before work commences.

Substrate Preparation

- Trowel: removal of surface contaminants and local make-good.
- Hammer and Chisel: removal of high spots and surface protrusions
- Angle Grinder: grinding and smoothing of concrete substrate.
- Broom and Blower: dry cleaning of substrate surface.
- Shovel and Wheelbarrow: removal of waste material.
- Jet Wash: cleaning of membrane surface prior to repair works.

Membrane Installation

- Tape Measure and Chalk Line: setting out reference lines.
- Utility Knife: cutting membrane rolls to length and for detail cuts.
- Scissors: cutting reinforcement material and patch pieces
- Pressure Roller (hand roller): consolidating seams, laps, and tape applications.

Seam and Tape Treatment

- Pressure Roller: rolling TREMproof DS Tape and Cover Tape to achieve full bond.
- Brush: applying liquid sealant or mastic at detail nodes.

Protection Works

- Standard hand tools: fixing TREMboard protection boards
- Appropriate Mechanical fixings: securing the membrane to the vertical faces.

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3.2 Substrate Preparation

Prepare the substrate before membrane installation. Movement during the concrete pour will compromise the waterproofing bond.

- Confirm the substrate is stable, level, and smooth. No gaps or voids greater than 12 mm are permitted.
- Remove all loose debris, sharp protrusions, and loose aggregate. Grind or chisel high spots as required.
- Compact soil or crushed stone to prevent movement under the membrane.
- Remove all standing water. The surface may be damp, but must be free of standing water.
- Grout around all penetrations to provide local stability before membrane installation.
- Confirm all protruding structural components are in their final position before waterproofing commences.
- Obtain inspection and approval from the supervising engineer before laying the membrane.

Pre-lay membrane rolls on site before installation to release packaging and transport stresses. This prevents wrinkles and distortion during application.

3.3 Environmental Requirements

- Minimum application temperature: 5 °C ambient and substrate. Maintain this minimum during storage, throughout application, and for 24 hours after completion.
- Do not apply during rain, snow, or in winds of force 5 or higher.
- Store tapes at a minimum of 5 °C for at least 24 hours before use. Do not use cold-bond tape below 5 °C.

3.4 Horizontal Installation (Base Slabs)

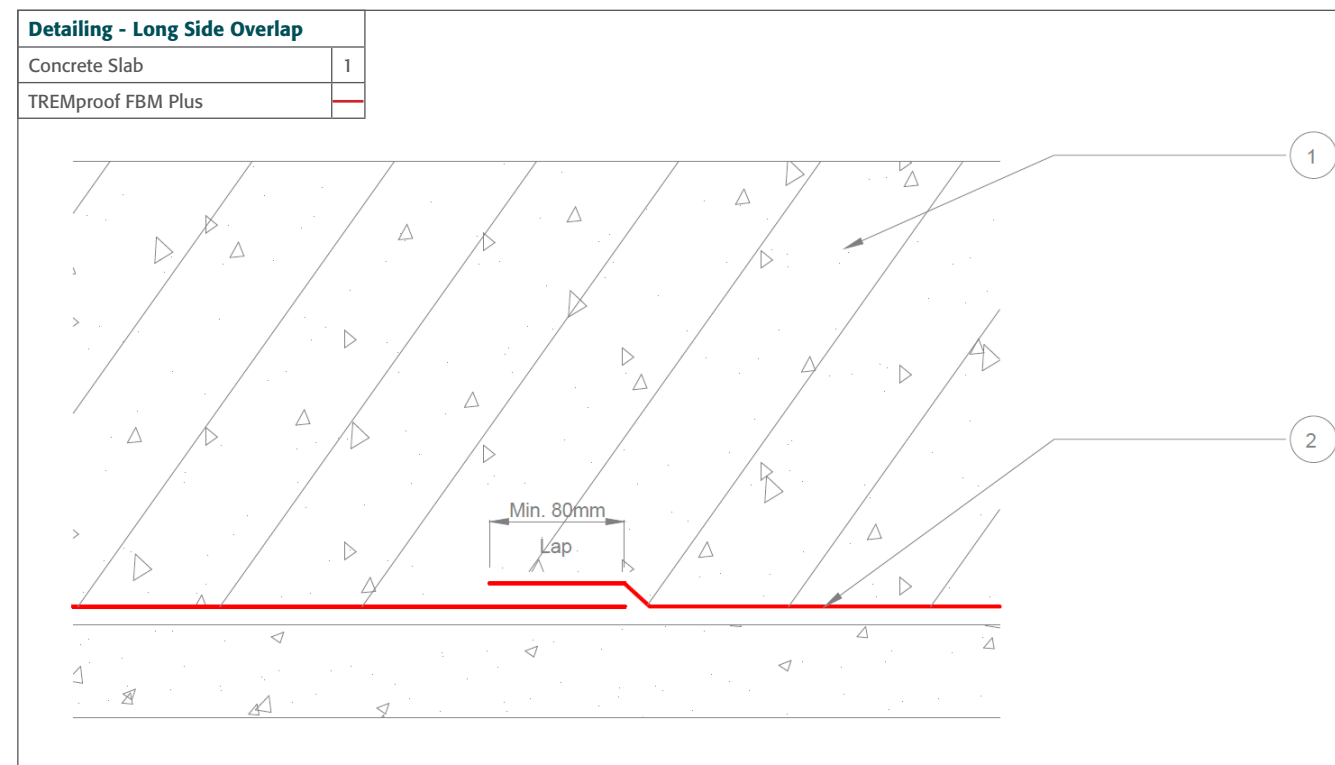
1. Confirm that the substrate meets the requirements in Section 3.2. Apply using the loose-lay method.
2. Snap reference lines to control sheet alignment.
3. Position the membrane with the HDPE film side down against the substrate. The pressure-sensitive adhesive must face upward toward the concrete pour direction.
4. Unroll each sheet and overlap the previous sheet by 80 mm along the pre-marked seldge.
5. Stagger end laps so no joints align across adjacent sheets.
6. Roll all seams firmly to achieve a continuous bond.
7. The structural concrete for foundation slabs must have a minimum thickness of 150 mm.

3.5 Vertical Installation (Walls)

1. Start installation at the bottom of the external basement wall and work upward. This ensures water sheds over the front edge of each lap.
2. Mechanically fasten the membrane within 50 mm of the leading edge. Space fixings so they are fully covered by the overlapping sheet.
3. Overlap all succeeding sheets by 80 mm at side laps and end laps.
4. Roll firmly to consolidate the bond.
5. Do not use conventional two-sided formwork.

3.6 Overlap Treatment

1. **Side laps:** The dual adhesive seam system bonds adhesive to adhesive. Press firmly with a pressure roller across the full lap width to achieve a continuous, watertight seal.



2. **End laps:** Clean all surfaces. Apply TREMproof FBM Plus DS Tape (80 mm minimum width) and roll firmly. Centre TREMproof FBM Cover Tape (120 mm) over the seam and roll firmly.
3. **T-Joints:** Cross-joints are not permitted. Stagger short-edge overlaps by one-third to one-half of the sheet width. Where a T-Joint forms, extend the cover tape at least 100 mm beyond the joint in all directions.

Detailing - End Side Overlap; Vertical

Concrete Slab	1
TREMproof FBM Plus DS Tape	
TREMproof FBM Plus Cover Tape	
TREMproof FBM Plus	

T - Junction

TREMproof FBM Plus DS Tape	
TREMproof FBM Plus Cover Tape	
TREMproof FBM Plus	

3.7 Detailing and Termination

3.7.1 Internal Corner

1. Cut the TREMproof FBM Plus along the line between sections C and D, from the outside edge to the centre point of the corner.
2. Position the membrane into the internal corner, with section C laid flat to the horizontal substrate and Section D folded to form the corner overlap. Firmly form sections A and B against the vertical upturns.
3. Make a diagonal cut to Section D as indicated, allowing the membrane to fold neatly into the internal corner without bunching or excessive build-up.
4. Apply TREMproof FBM Plus DS Tape beneath the formed overlap at the corner and firmly roll the membrane together to achieve full contact and adhesion.
5. Apply TREMproof FBM Plus Cover Tape centrally over the formed corner joint, extending the Cover Tape a minimum of 120 mm up the vertical upturns. Firmly roll the cover Tape into place.
6. Cut TREMproof FBM Plus Cover Tape to the indicated figure-eight shape and apply centrally over the internal corner intersection. Firmly roll into place to complete the detail.

Internal Corner

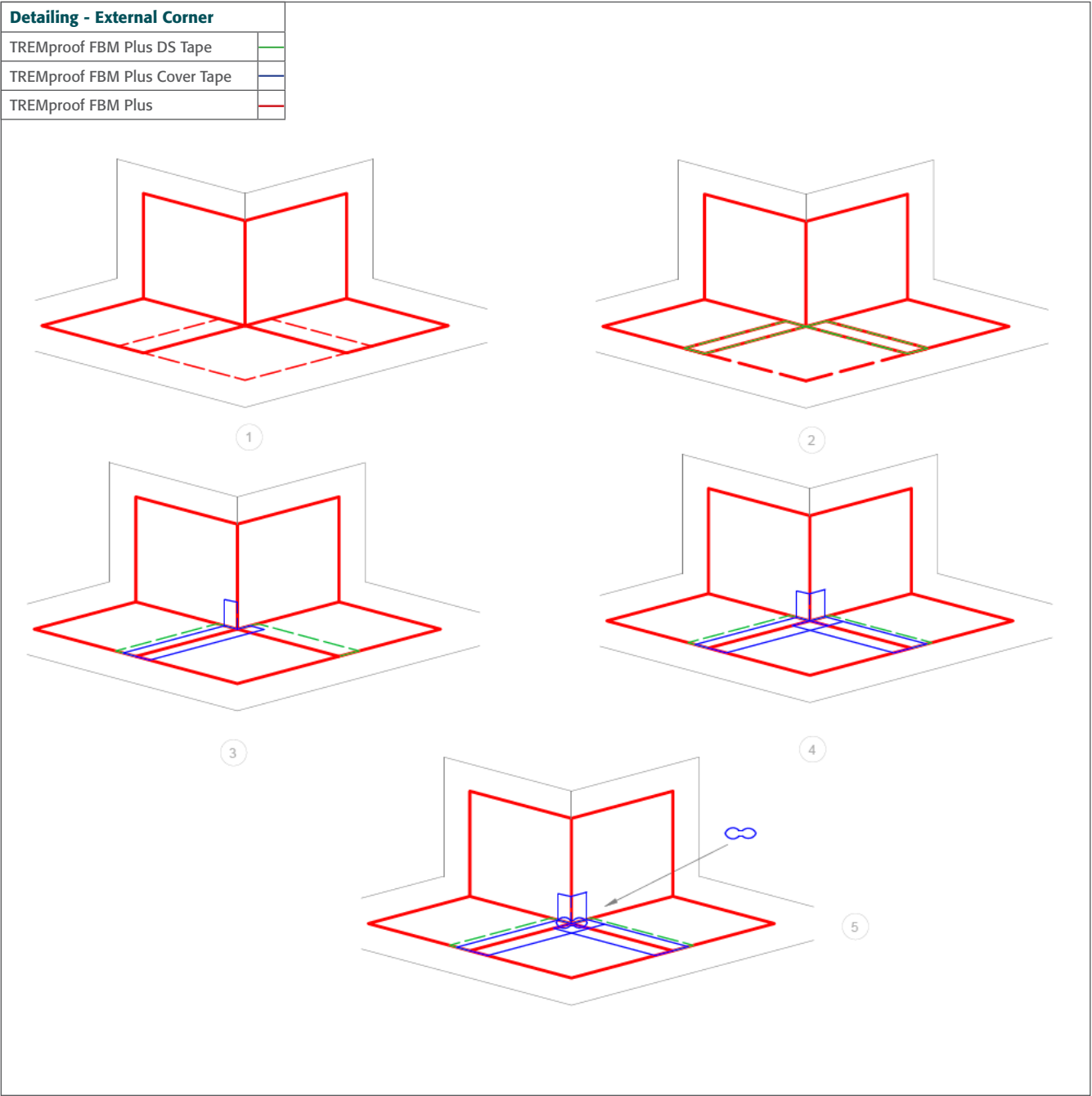
TREMproof FBM Plus DS Tape	
TREMproof FBM Plus Cover Tape	
TREMproof FBM Plus	

3.7.2 External Corner

- 1. Cut TREMproof FBM Plus to suit the corner, including an additional 80 mm square section for the DS Tape connection. Tuck the cut-out beneath the main membrane, maintaining a minimum 80 mm overlap.
- 2. Apply TREMproof FBM Plus DS Tape within the 80 mm overlap

and bond the layers firmly with a roller.

- 3. Apply TREMproof FBM Cover Tape over the joint, maintaining a minimum 60 mm overlap on each side.
- 4. Cut the cover tape to the indicated figure-eight shape and apply it centrally over the corner to complete the detail.

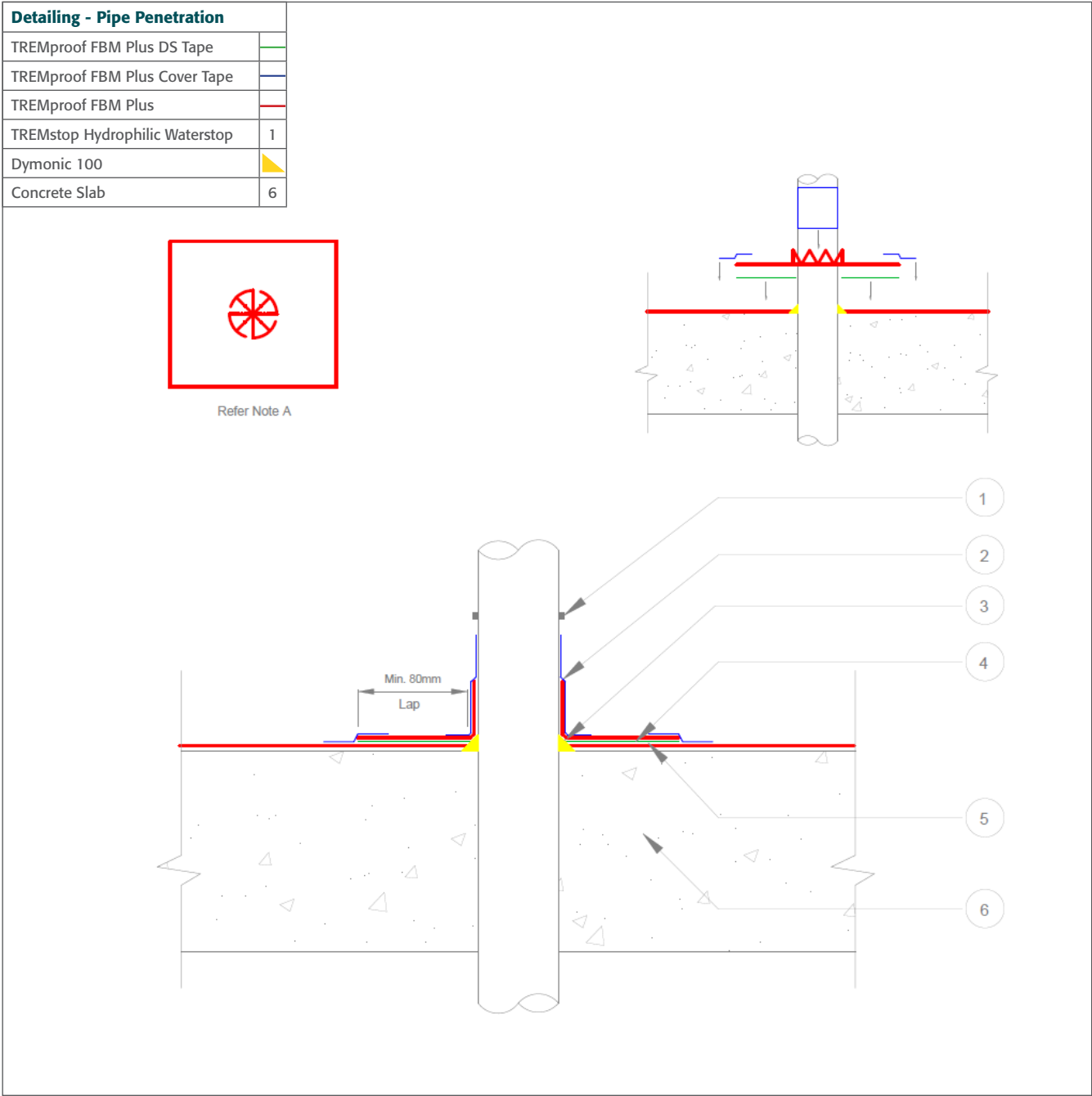


3.7.3 Pipe Penetration

- 1. Cut a circular opening in the membrane equal to the penetration outside diameter.
- 2. Install a square membrane patch sized to the penetration outside diameter plus 300 mm.
- 3. Install TREMstop Hydrophilic Waterstop around the penetration

to seal against water ingress.

- 4. Apply TREMproof FBM Plus DS Tape, maintaining a minimum 80 mm lap.
- 5. Seal with Dymonic 100 at the penetration interface.
- 6. Finish with TREMproof FBM Cover Tape over the joint.



3.7.4 Threaded Rod, Pin, or Rebar Detail

1. Lay TREMproof FBM Plus tight to the threaded rod, rebar or stud.

2. TREMproof FBM Plus membrane must overlap a minimum of 100 mm on either side.

3. TREMstop Hydro Mastic or Dymonic 100 around the base of each penetrating element. Ensure full contact between the mastic and the membrane surface

4. Use TREMproof FBM Plus DS Tape between the membrane on the ground and patch.

5. Apply TREMproof FBM Plus Cover Tape over the membrane edge.
1. Lay TREMproof FBM Plus membrane tight to the pile cap. No bridging is permitted. The membrane must contact the full surface area up to the cap perimeter.

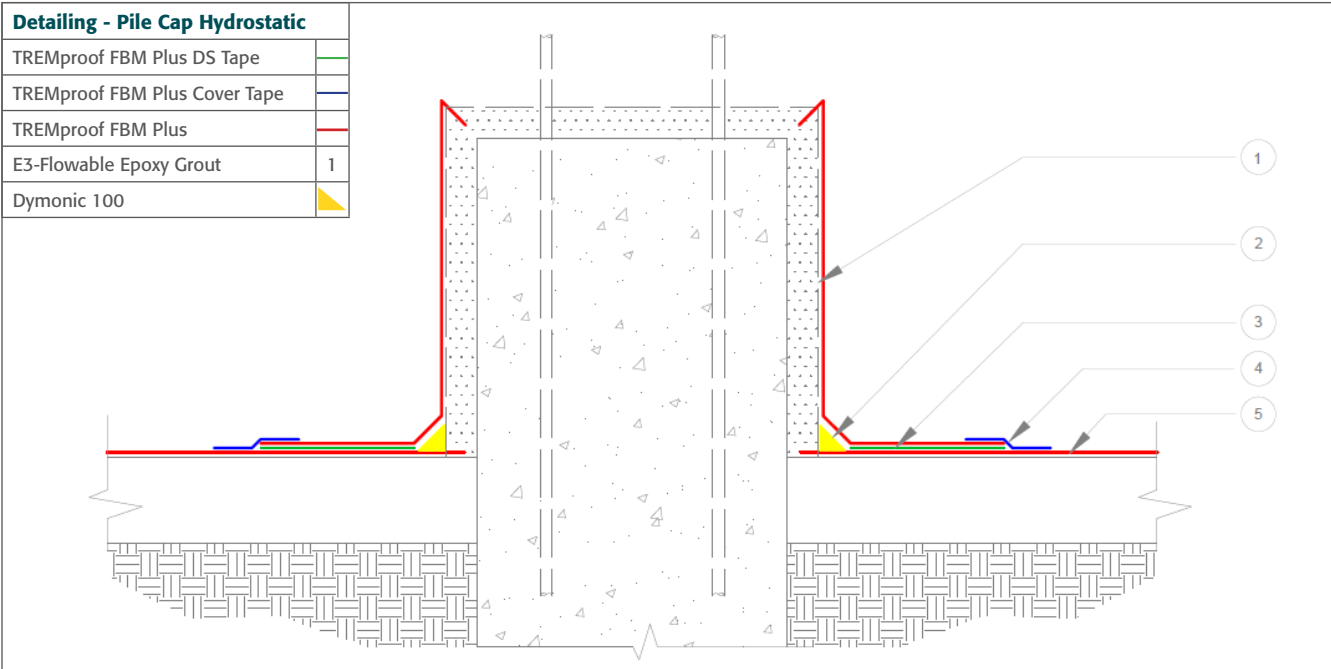
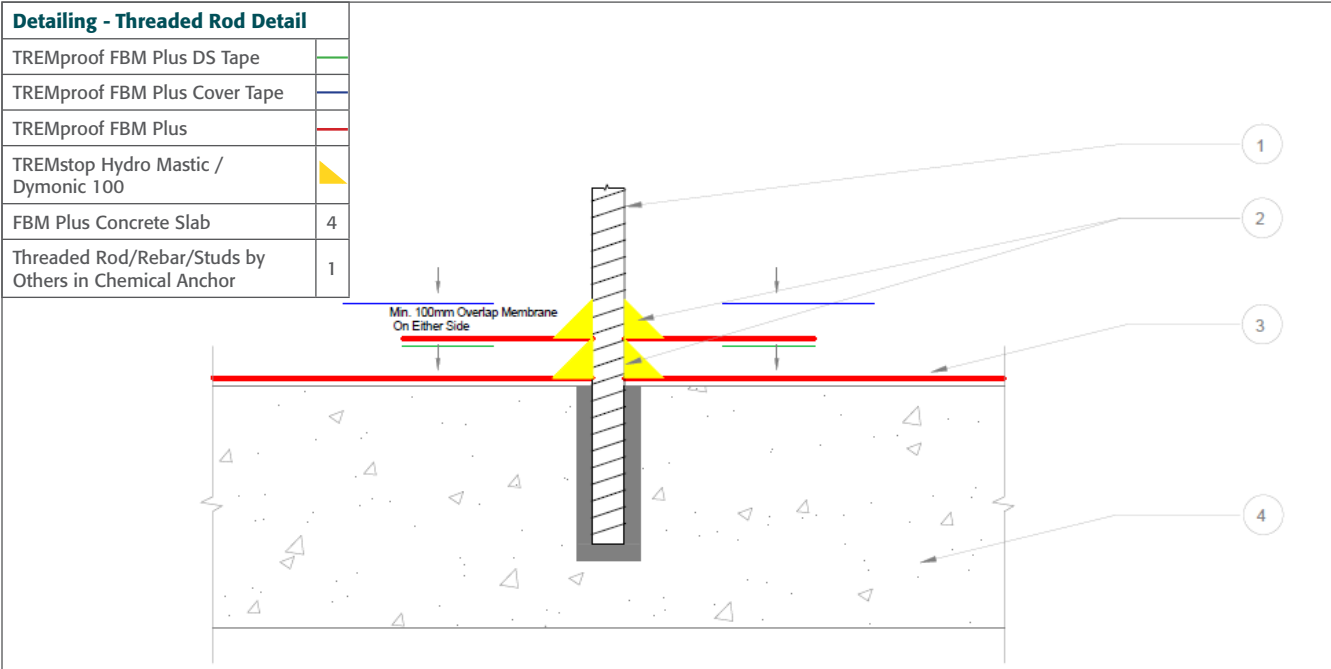
2. Apply TREMproof FBM Plus DS Tape at the pile cap edge. Lap a minimum of 80 mm onto the membrane and turn up the cap face by a minimum of 80 mm to maintain waterproofing continuity.

3. Apply TREMproof FBM Plus Cover Tape over the DS Tape, centered over the joint and overlapping a minimum 80 mm in each direction. Roll firmly.

4. Apply Dymonic 100 sealant at the cover tape termination edge to prevent water ingress at the detail perimeter.

3.7.5 Pile Caps

1. Install E3-Flowable Epoxy Grout to fill and seal the transition

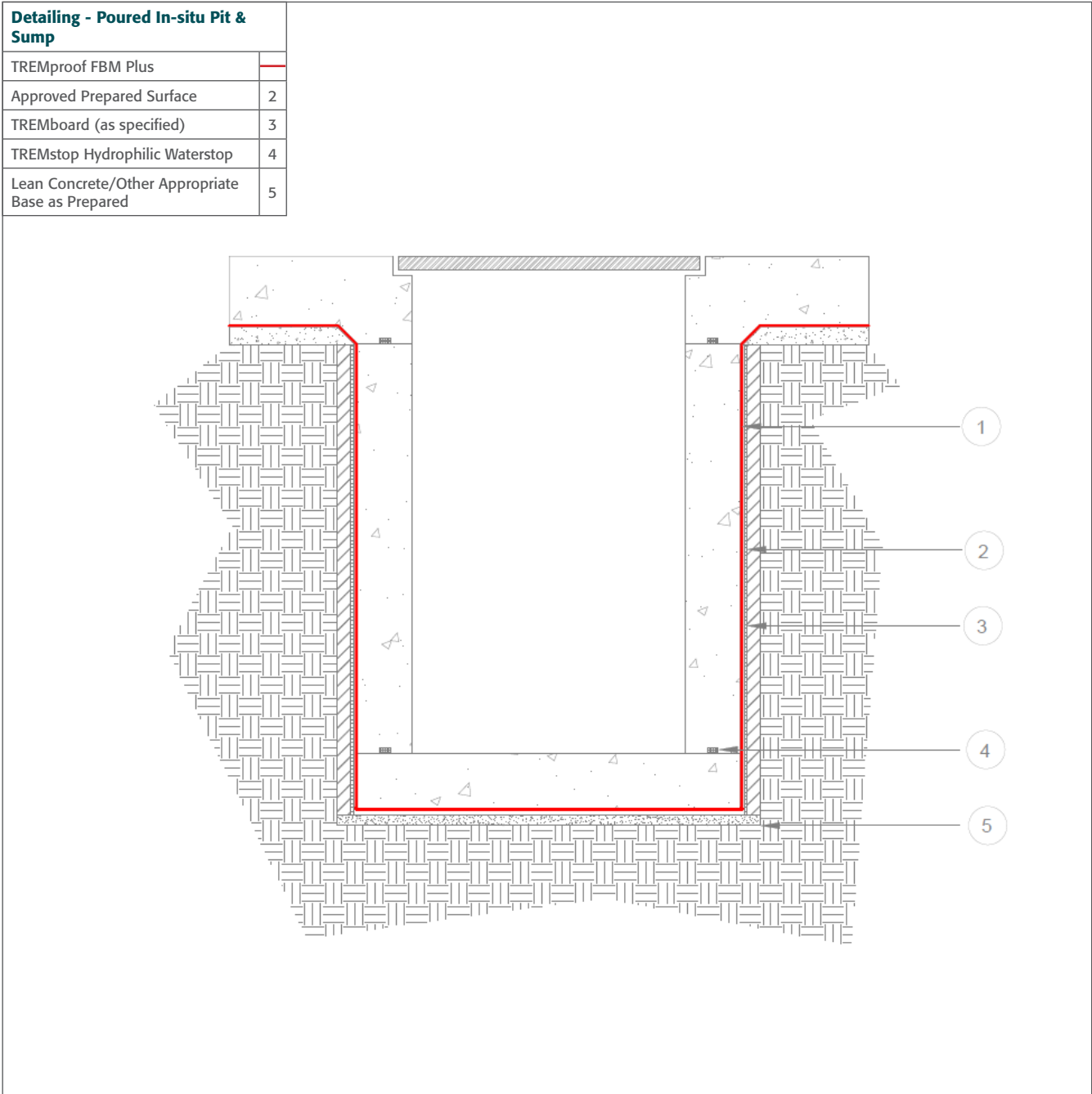


3.7.6 In-Situ Pit and Sump

1. Lay TREMproof FBM Plus over the lean concrete or other prepared base.

2. Install TREMstop Hydrophilic Waterstop at the joint.

3. Protect the membrane with TREMboard or an insulation board as selected.



3.7.7 RC Wall Base with Toe

1. Prepare the lean concrete or well-compacted base. The surface must be level, free of voids greater than 12 mm, and clear of standing water.

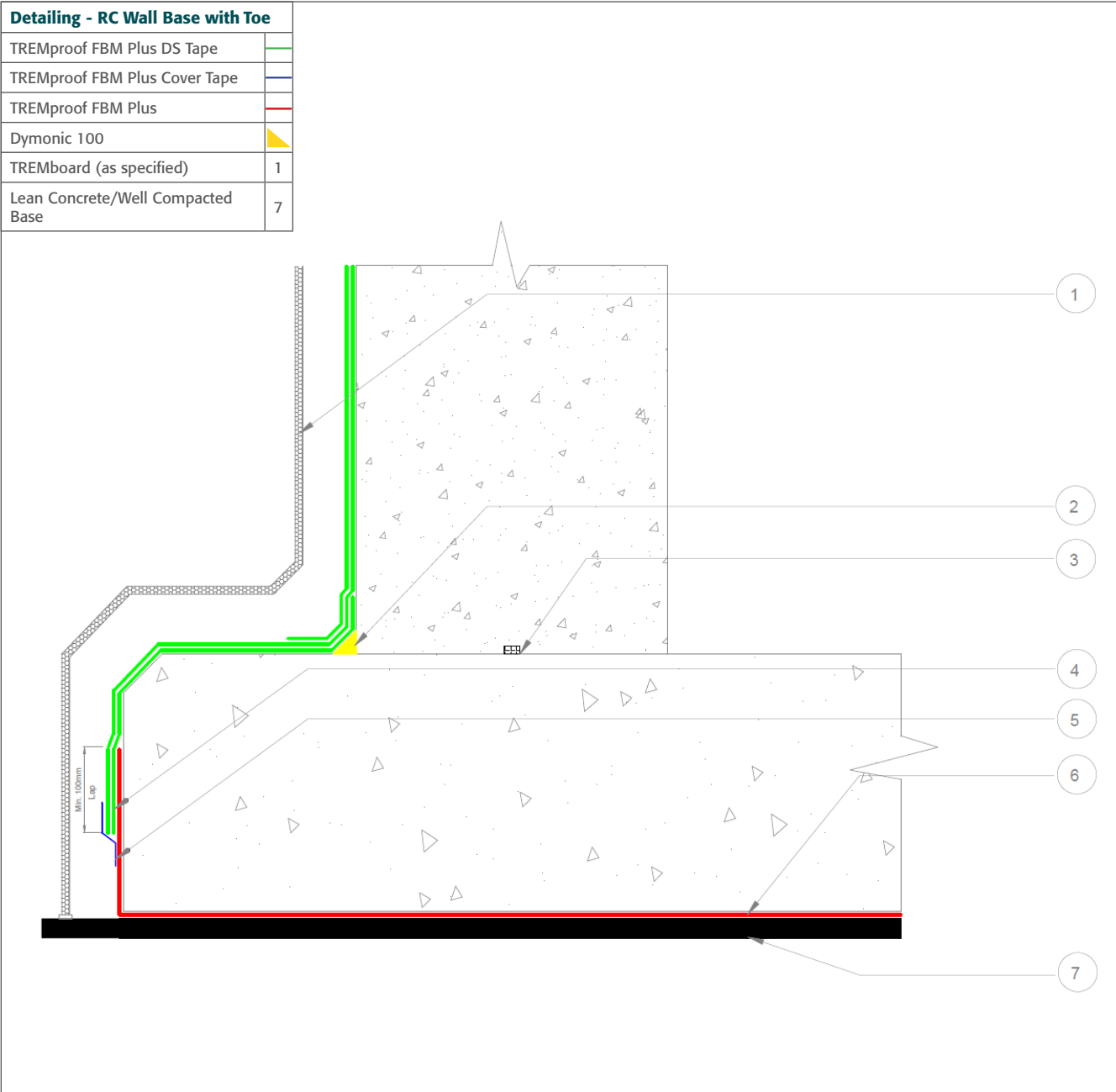
2. Lay TREMproof FBM Plus horizontally across the base and extend it up the external wall toe face. Maintain a minimum 100 mm lap at the horizontal-to-vertical transition.

3. Apply TREMproof FBM Plus Cover Tape over the transition lap and roll firmly to achieve a continuous bond at the base-to-wall junction.
4. Apply TREMproof 560A post-applied waterproofing membrane in two layers to the vertical wall face above the TREMproof FBM Plus termination to maintain waterproofing continuity up the wall elevation.

5. Install TREMstop Hydrophilic Waterstop at the construction joint between the base slab and the wall.

6. Apply Dymonic 100 sealant at all termination and interface edges.

7. Install TREMboard as specified over the completed membrane on the wall face prior to backfilling.



3.7.8 Elevated Slab

1. Prepare the lean concrete or well-compacted base at the footer level. The surface must be sound, level and free of voids greater than 12 mm.

2. Lay TREMproof FBM Plus horizontally across the base slab zone and extend it up the external wall face. Maintain a minimum 100 mm lap at the horizontal-to-vertical transition.

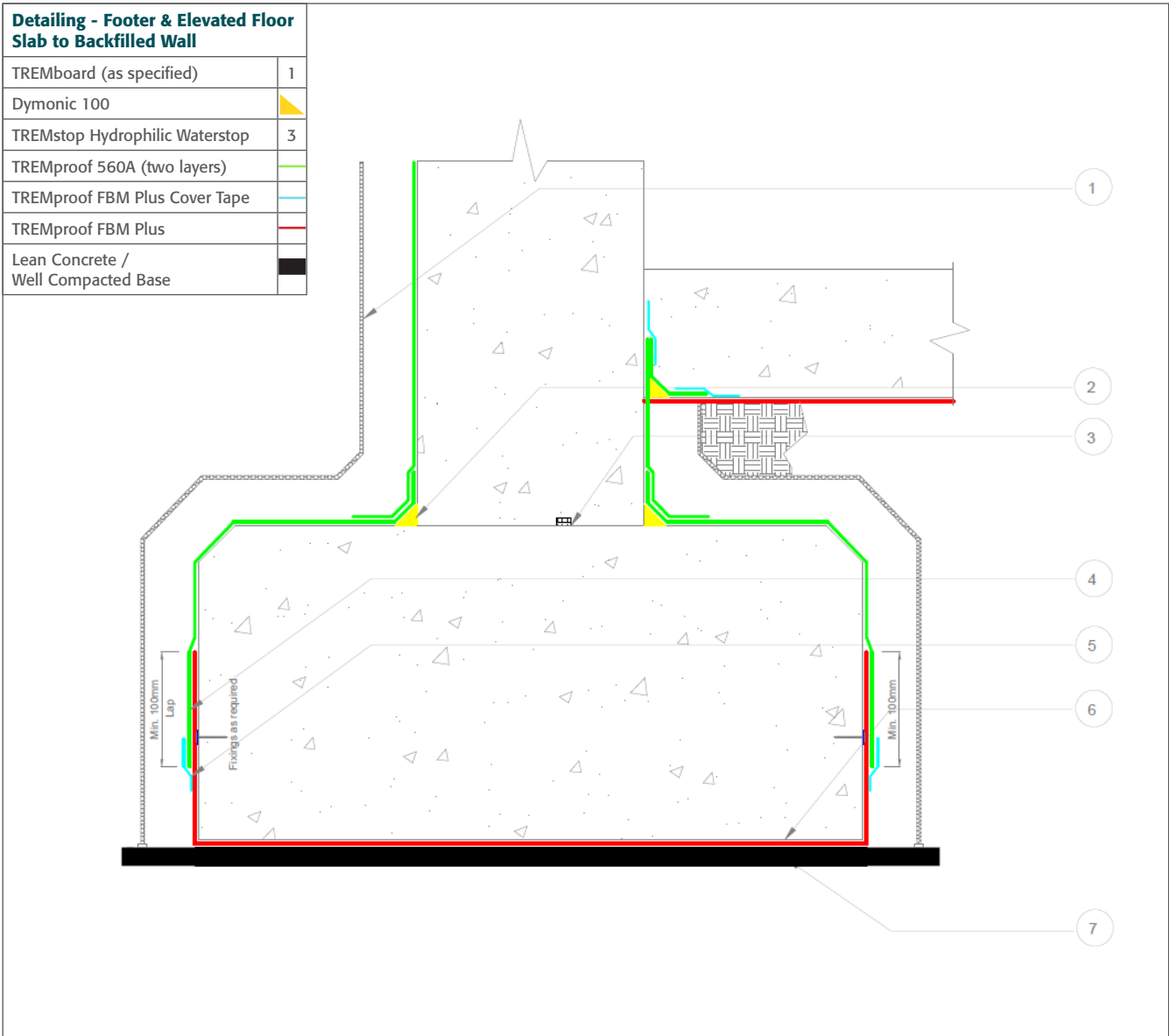
3. Where mechanical fixings are required to hold the membrane to the vertical face, install them within 50 mm of the leading edge. Confirm each fixing is fully covered by the overlapping membrane sheet.

4. Apply TREMproof FBM Plus Cover Tape over the transition lap and roll firmly to achieve a continuous bond at the footer-to-wall junction.
5. Apply TREMproof 560A post-applied membrane in two layers to the vertical wall face above TREMproof FBM Plus termination to maintain a continuous waterproofing envelope up to the elevated slab level.

6. Install TREMstop Hydrophilic Waterstop at the construction joint between the footer and the wall.

7. Apply Dymonic 100 sealant at all termination edges and interface joints.

8. Install TREMboard as specified over the completed membrane on the wall face. Confirm fixings are positioned and fully covered before the slab is poured.



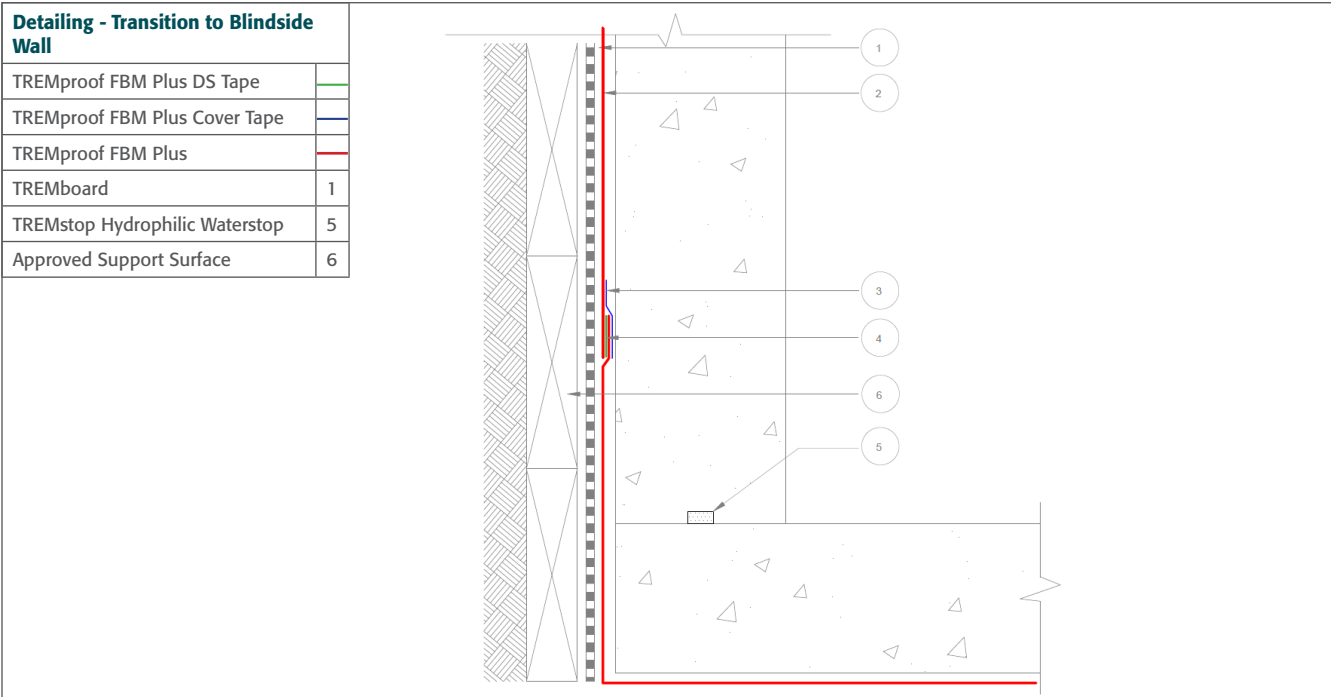
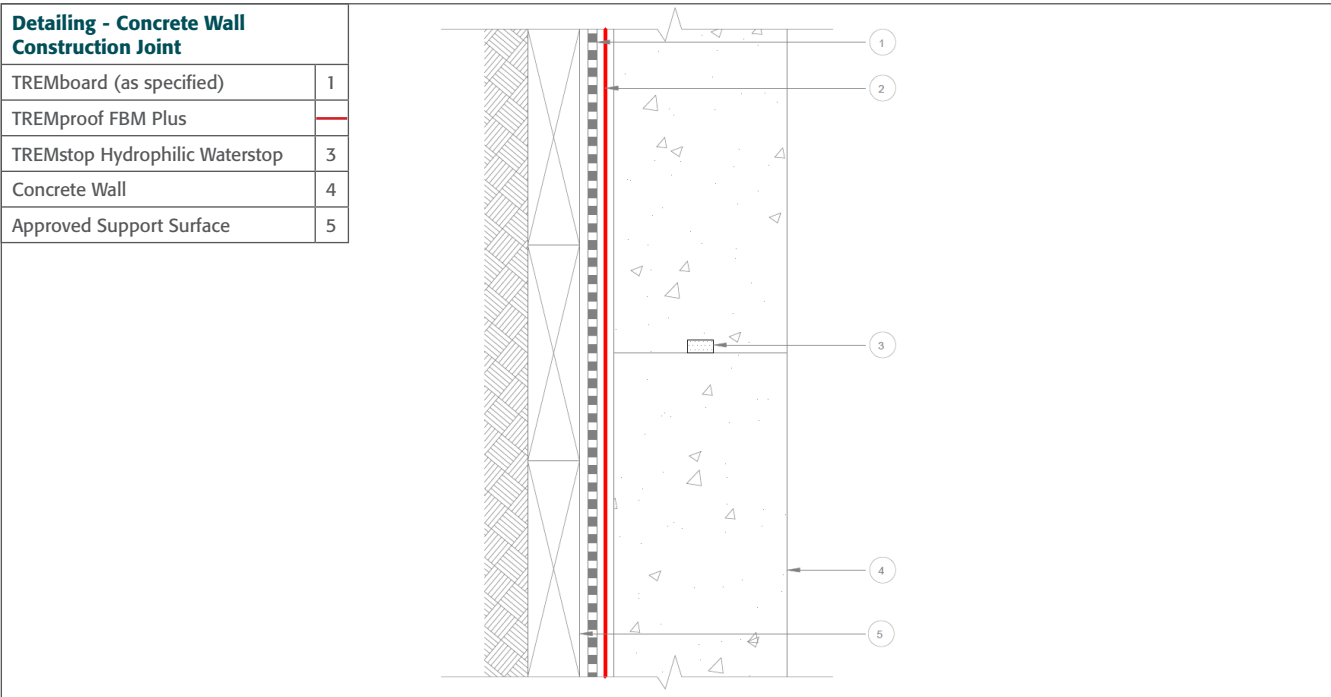
3.7.9 Concrete Wall Construction Joint

- 1. Install TREMSTOP Hydrophilic Waterstop centered over the construction joint.
- 2. Lay TREMproof FBM Plus over the prepared concrete wall.
- 3. Protect the completed membrane with TREMboard and use Tremco Drainage Cell where a drainage plane is required.

3.7.10 Transition to Blindside Wall

- 1. Install TREMstop Hydrophilic Waterstop at the transition joint between the horizontal slab and the blindside wall. Position it so it spans the full width of the joint and will be fully encapsulated by the concrete pour.

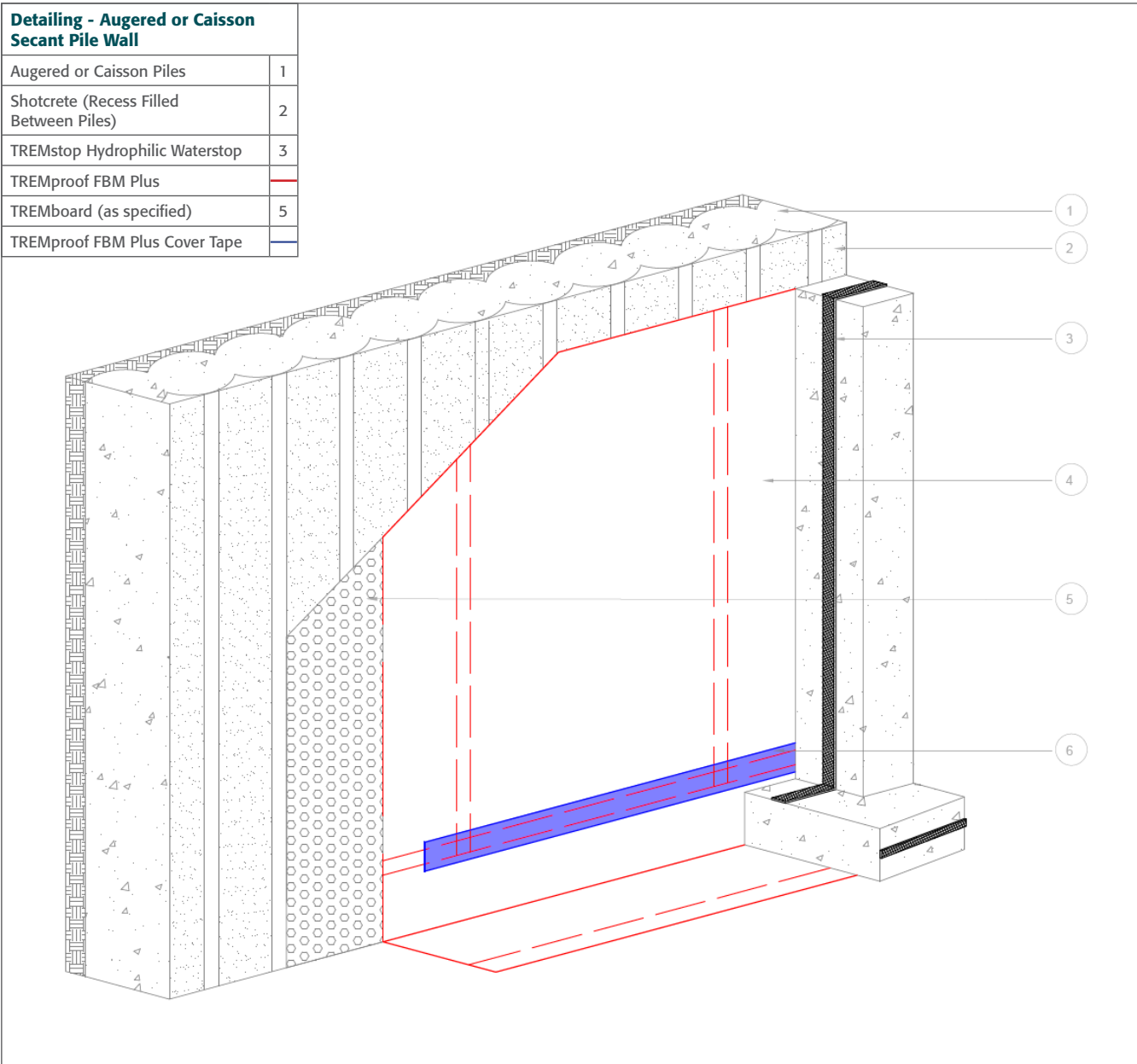
- 2. Lay TREMproof FBM Pus over the prepared horizontal surface and continue the membrane up the blindside wall face, maintaining the correct HDPE-face-to-substrate orientation throughout.
- 3. At the transition point, apply TREMproof FBM Plus DS Tape to bond the horizontal and vertical membrane sections together, ensuring no gaps or bridging at the corner.
- 4. Finish the transition joint with TREMproof FBM Cover Tape, pressed firmly with a roller to achieve a continuous, watertight seal.
- 5. Protect the installed membrane on the blindside wall face with TREMboard prior to forming and concrete placement.



3.7.11 Augered or Caisson Secant Pile Wall

- 1. Confirm the pile wall face is prepared. Fill and smooth all recesses between augered or caisson piles using shotcrete to achieve a stable, flush face before membrane installation.
- 2. Install TREMstop Hydrophilic Waterstop at all construction joints within the pile wall face.
- 3. Apply TREMproof FBM Plus vertically over the prepared pile wall face. Mechanically fasten within 50 mm of the leading edge. Overlap succeeding sheets by a minimum of 80 mm at the

- standard long-side lap and roll firmly to achieve full adhesion.
- 4. At the end laps, cut laps and local detail transitions, apply TREMproof FBM Plus DS and/or Cover Tape as applicable in accordance with the relevant TREMproof FBM Plus detailing. Cover Tape is not required over the standard integral long-side lap.
- 5. Install TREMboard as specified over the completed membrane before concrete placement and subsequent construction activity.



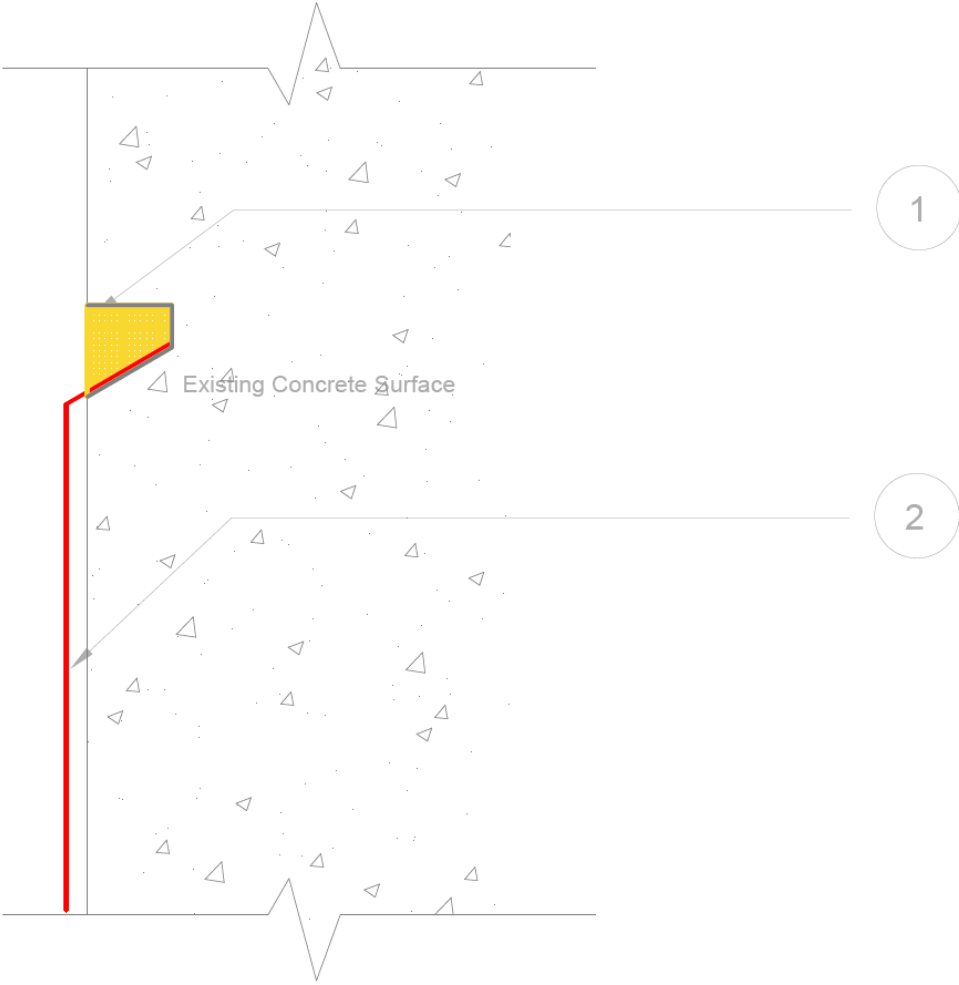
3.7.12 Sealed Reglet Termination

- 1. Confirm the concrete substrate at the termination location is sound, clean, and free of loose material before forming the reglet.
- 2. Form a 15 mm × 15 mm reglet in sound concrete at the required termination height. Ensure the reglet is continuous along the full termination length with no gaps or voids.
- 3. Terminate TREMproof FBM Plus into the formed reglet. Ensure

- the membrane is fully seated into the reglet with no bridging or lifting at the termination edge.
- 4. Seal the reglet continuously with Dymonic 100. Tool to a continuous, pinhole-free bead to prevent water ingress at the termination point.
 - 5. Confirm the final reglet location and its integration with adjacent construction meet project-specific requirements.

Sealed Reglet Termination Typical

Dymonic 100 Sealed Reglet	
TREMproof FBM Plus	



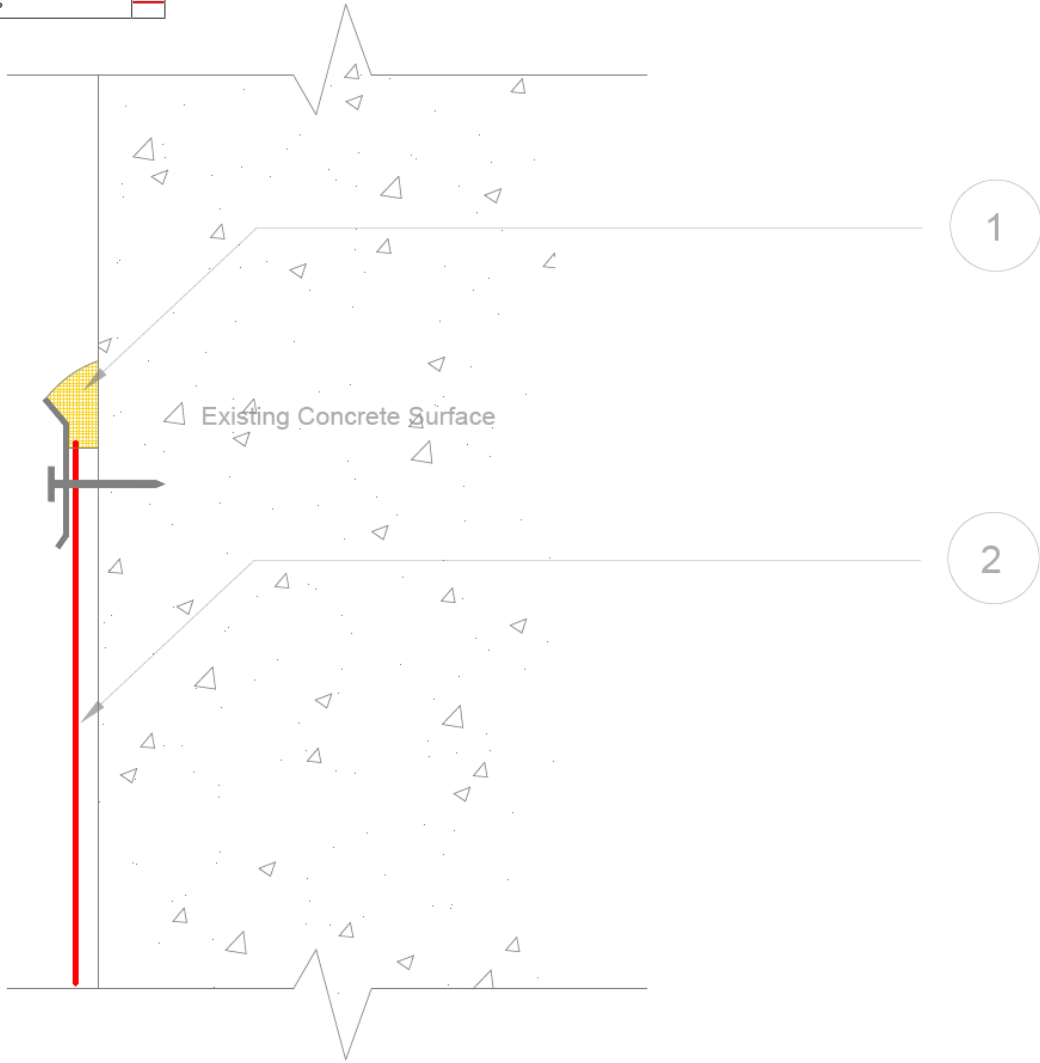
3.7.13 Mechanical Termination

- 1. Confirm the concrete substrate at the termination location is sound, clean and free of loose material before installing any fixings.
- 2. Positively mechanically terminate TREMproof FBM Plus using a continuous termination bar or pressure flashing fixed to sound concrete. Ensure the membrane is held firmly and evenly along the full termination length.
- 3. Seal the upper edge of the termination bar or pressure flashing

- continuously with Dymonic 100 or TREMstop Hydro Mastic. Tool to a continuous, pinhole-free bead to prevent water ingress at the termination edge.
- 4. Confirm the final termination height and its interface with adjacent construction meet project-specific requirements.
 - 5. Where fixings penetrate the membrane, detail and seal each fixing point with a compatible sealant to maintain full waterproofing continuity. Do not leave any penetration point unsealed.

Mechanical Termination Typical

Dymonic 100 / TREMstop Hydro Mastic	
TREMproof FBM Plus	



4. Inspection

- Inspect the completed area before placing any reinforcing steel or formwork.
- Confirm laps are firmly adhered, sealed tightly, and free from wrinkles, holes, or lifting edges.
 - Complete a self-inspection, then complete inspection/acceptance in accordance with the project QA/ITP requirements.
 - Do not proceed to the next stage until the relevant acceptance criteria have been met.

5. Damage Repair

- Inspect the membrane before installing reinforcement, formwork, or concrete. Clean with a jet wash if required, wipe with a damp cloth, and allow it to dry.
- **Minor punctures:** Apply cover tape over the damaged area and press firmly.
 - **Larger punctures:** Cut a TREMproof FBM Plus patch extending 150 mm beyond the damage. Use TREMproof FBM DS Tape to adhere the patch to the existing membrane. Seal all edges with TREMproof Cover Tape. Make sure to press firmly to form a continuous bond.
 - **Exposed selvedge that has lost adhesion:** Clean the area, apply TREMproof DS Tape along the pre-marked selvedge, position the adjacent roll, and press firmly. Finish edges with TREMproof Cover Tape and press firmly with roller.
 - **Unsealed Laps:** Clean the area, overlap with TREMproof FBM Cover Tape and press firmly with roller.

6. Finished Product Protection

- Protecting the installed membrane keeps performance intact through concreting and backfilling.
- Set up warning lines and clear signs to prevent unauthorized entry to the work area.
 - Operators must wear clean, soft-soled shoes. Spiked footwear on the membrane is prohibited.
 - Protect pipe roots and pre-embedded components. Do not damage or displace them.
 - Place padding, such as timbers or templates, under reinforcing bars during lowering to prevent impact damage.
 - Where local welding of reinforcement is required, sprinkle water below and lay a damp geotextile to protect the membrane from welding slag.
 - Do not drill or chisel on the completed membrane.

7. Concrete Placement

- Remove any temporary protective plastic covering from the membrane surface before pouring concrete.
- Place concrete carefully to avoid membrane damage. Never use a sharp object to consolidate the concrete.
- Pour concrete within 42 days of membrane application. Confirm timing against site exposure conditions. If exposure exceeds 42 days, apply temporary protection and complete a project-specific assessment.
- For horizontal slabs, confirm the structural concrete is a minimum of 150 mm thick.

- Strip formwork only after concrete reaches a minimum of 20 N/mm².
- After formwork removal and before backfilling, protect all exposed membrane with TREMboard.

8. Safety and Storage

8.1 Handling Precautions

- Read and understand the Safety Data Sheet (SDS) before use. The SDS is the primary reference for health and safety information.
- Operators should wear clean, soft-soled shoes. Spiked footwear on the membrane is prohibited.

8.2 Storage Conditions

- Store in the original, undamaged packing in a clear, cool, dry and protected location.
- Avoid contact with acids, alkalis, oils and organic solvents.
- Shelf life is 12 months when stored as recommended in original, unopened packaging.
- Store tapes for at least 24 hours at a minimum of 5 °C before installation.

8.3 Packaging Reference

- Roll Size: 1.2 m × 20 m
- Roll Weight: 42 kg per roll
- Effective Coverage: approximately 24 m² per roll
- Side Lap: 80 mm | End Lap: 80 mm

9. Auxiliary Products

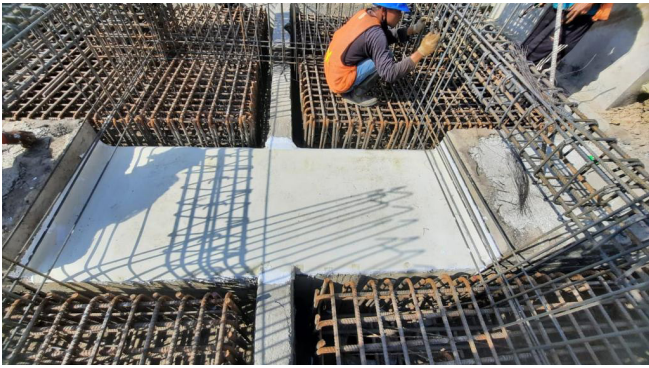
The following products support the TREMproof FBM Plus System.

- **TREMproof FBM Plus DS Tape:** A double-sided, high-performance adhesive tape for sealing membrane end laps, details, and repairs.
- **TREMproof FBM Cover Tape:** A single-sided adhesive tape for covering and protecting seams, edges and repairs on the membrane.
- **Tremco Permanent Seam Tape:** A rubberised-bitumen seam tape for sealing HDPE liner seams and reinforcing seam and detail areas.
- **Euclid Grout:** A cementitious repair and detailing mortar 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 on contact with water. It seals joints and pipe penetrations.
- **TREMproof 560A:** A positive-side, post-applied waterproofing membrane for vertical wall faces, below-grade structures, and waterproofing tie-ins.
- **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 on contact with water to seal construction joints and prevent water ingress.
- **TREMboard:** A protection board that shields waterproofing membranes from mechanical damage during backfilling and construction.
- **Tremco Drainage Cell:** A drainage and protection board that creates a drainage plane and relieves water pressure against below-grade waterproofing systems.

Recommended Pre-Start and QA Checklist

This checklist is provided as a recommended pre-start and QA reference for the waterproofing contractor. Review each item before membrane installation commences and record outcomes to support project QA/ITP requirements.

No.	Category	Check Item	Status (Yes/No/N/A)	Verified By
1	Site Conditions	Work area is clear, safe, and accessible for installation		
2	Site Conditions	All components protruding from the substrate are installed		
3	Site Conditions	Standing water has been removed from the substrate		
4	Substrate Approval	Substrate is stable, level, and smooth, with no gaps or voids exceeding 12 mm		
5	Substrate Approval	Loose debris, loose aggregate, and sharp protrusions have been removed		
6	Substrate Approval	Soil or crushed stone is compacted to prevent movement		
7	Substrate Approval	Penetrations are grouted for local stability		
8	Substrate Approval	Vertical facings are supported and closely butted, with misalignment of 12 mm or less		
9	Substrate Approval	Substrate inspection and acceptance completed in accordance with project QA/ITP requirements		
10	Membrane Verification	Membrane rolls are genuine TREMproof FBM Plus and undamaged		
11	Membrane Verification	TREMproof FBM Plus DS and TREMproof FBM Plus Cover tape are on site and in date		
12	Membrane Verification	Auxiliary products for detailing are on site (see section 9)		
13	Membrane Verification	Tapes have been stored for at least 24 hours at 5 °C or above		
14	Membrane Verification	Product shelf life is confirmed (12 months from manufacture, unopened)		
15	Environmental Checks	Ambient and substrate temperature is 5 °C or above		
16	Environmental Checks	No rain or snow is present or forecast during application		
17	Environmental Checks	Wind is below force 5		
18	Personnel Readiness	Installers are briefed on method statement and the detail drawings		
19	Personnel Readiness	Operators are wearing clean, soft-soled footwear		
20	Personnel Readiness	The Safety Data Sheet (SDS) has been read and understood		
21	Personnel Readiness	Tools and equipment are on site and in working order (see section 3.1)		
Checklist Completed by (Contractor): _____			Date: _____	



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Our products and services empower teams to develop, design, restore and engineer structures that are more efficient to build and maintain, are virtually impervious to the elements and can provide any look desired.

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