TREMCO

APPLICATION INSTRUCTIONS

TREMproof® DUAL WATERPROOFING SYSTEM

TREMproof TRA Sheeting Embedded in TREMproof Cold Liquid-Applied Membrane

1. PURPOSE

1.1 The purpose of this document is to establish uniform procedures for installing the TREMproof® Dual Waterproofing System (DWS) for waterproofing applications.

1.2 The techniques involved may require modifications to adjust to jobsite conditions. Consult your Tremco Representative for specific design requirements.

2. SCOPE

2.1 This document will provide the necessary instructions for the application of the TREMproof Dual Waterproofing System to qualify for the manufacturer's warranty. Tremco recognizes that site specific conditions, weather patterns, contractor preferences and membrane detailing may require deviation or alteration from these prescribed installation procedures. When such circumstances and situations exist on a project, Tremco recommends that the local Tremco Sales Representative or Technical Services be contacted for assistance and approval as required.

3. SYSTEM COMPONENTS

- TREMproof 250GC
- TREMproof TRA Sheeting
- Vulkem 191 QD Primer
- Paraterm Termination Bar
- Dymonic 100
- Tremco 2450 Protection Board
- 6 mil polyethylene sheeting
- TREMDrain Series Drainage Mats
- Superstop

4. SUBSTRATE PREPARATION

4.1 Surface to be waterproofed may be dry, green, or damp concrete and shall be clean, sound, and free of all contaminants which may interfere with adhesion or proper curing of the membrane. If release agents are present, they must be removed prior to the application of TREMproof 250GC.

4.2 Concrete slabs should be light steel troweled followed by a fine hair broom or equivalent finish. Concrete surface shall be free of voids, exposed aggregate areas, honeycombs, splatters, ridges, fins, and other projections or depressions. All reinforcing, including cut off rebar, shall be covered by a minimum of 3/4˝ (18 mm) of concrete epoxy, or approved repair mortar.

4.3 Concrete that is to receive waterproofing shall be water-cured. Consult an Architect or Engineer for minimum cure time on concrete before water can be stopped and foot traffic is permitted. Allow a minimum of 24 hours for concrete surface to dry after stopping water cure on decks or removing forms from walls or underside of decks. In the event it is necessary to use a curing agent, contact your local Tremco Representative.

4.4 Most dissipating types of curing compounds require removal before membranes can be successfully applied. Numerous manufacturers claim their curing compounds will not affect the adhesion of membranes and sealants and in some cases, they may not. Sometimes the breakdown of the curing compound does not happen and/or the residual materials are left on the concrete and can cause adhesion problems with the membrane. Tremco will not accept responsibility for adhesion failures caused by curing compounds.

4.5 Concrete masonry unit construction may receive a parge coat of acceptable cementitious coating approved by Tremco. All CMU walls must have all joints solid grouted and struck flush with no voids.

4.6 Metal flashing that is to receive waterproofing shall be set in a continuous bedding bead of Dymonic 100, or TREMproof 250GC-T. Install sealant S-bead between metal laps and mechanical fasten to substrate along leading edges every 4" (101 mm) O.C., staggered linearly to lie flat with fishmouths. To keep with from occurring, do not countersink fasteners; keep them flush. It is preferred for the concrete to be routed in the leading edges, so the flashing lies flush with the decking.

4.7 For horizontal applications, follow good drainage practices to permit unimpeded water flow to drain(s) that are type and number sufficient to allow water to thoroughly evacuate the membrane surface.

4.8 All penetrations shall be encased in concrete. Penetrations must be solid grouted in place in conjunction with Superstop. No flexible pipe or corrugated pipe of any type shall be used for a through slab penetration. Penetrations shall be spaced a minimum of 2" (5 cm) apart to allow for detail work around penetration. All copper piping shall be sleeved with sleeve extending through the slab and above any planter fill. The waterproofing of the inside of the sleeve is the responsibility of other parties.

4.9 Sidewalls of expansion joints shall be parallel, smooth, and straight. Block out, if required, shall be per the recommendations of the manufacturer. Expansion joints running through planters, walls, or at building to deck shall have a curb to curb construction approved by a Tremco Waterproofing Contractor and Architect/Engineer.

5. DETAIL WORK

5.1 All shrinkage cracks shall be treated with a 30-mil coating of TREMproof 250GC, 6" (152 mm) wide, centered over the crack.

5.2 Moving structural cracks greater than 1/16" (1.6 mm) shall be routed and caulked with TREMproof 250GC-T or Dymonic 100, followed by a 30-mil detail coat of TREMproof 250GC extending a minimum of 3" (76 mm) on either side of the crack.

5.3 A 1" (25 mm) cant of TREMproof 250GC-T or Dymonic 100 shall be installed at all horizontal-vertical junctures and projections. Integral flashing shall be installed to the height indicated on the drawings.

5.4 EXPANSION JOINTS

5.4.1. Install closed-cell backer rod.

5.4.2. Install TRA sheeting into initial 90-mil coat of TREMproof 250GC with a minimum of 6" (152 mm) onto both sides of the joint making sure there is slack (loop detail) within the sheeting to accommodate anticipated movement. Fasten the sheeting on both sides using Tremco's Paraterm Bar through initial 30-mil detail coat of TREMproof 250GC. Apply the primer and 30-mil layer of TREMproof 250GC over the cured 30-mil base coat. Apply the second coat of TREMproof 250GC, fully embedding sheeting into the wet membrane. At ends of sheeting, overlap at least 2" (51 mm) to the two meeting sheets and seal the overlap with TREMproof 250GC. NOTE: for vertical below-grade expansion joints, please contact your local Tremco Sales Representative.

5.5 A 1" (25 mm) cant of TREMproof 250GC-T or Dymonic 100 shall be installed around all penetrations. Install a 60-mil detail coat of TREMproof 250GC extending 2" (50 mm) onto the penetration and 6" (152 mm) onto the surrounding substrate.

5.6 Inside corners shall be treated with a fillet bead of TREMproof 250GC-T or Dymonic 100. Install a 30-mil detail coat of TREMproof 250GC extending 6" (15 cm) on either side of the surrounding substrate.

5.7 Outside corners should have a 3/4" to 1" (18 to 25 mm) chamfer. Install a 30-mil detail coat of TREMproof 250GC extending 6" (15 cm) on either side of the corner.

5.8 If detailing is exposed more than 24 hours, apply Vulkem 191 Primer prior to the application of the membrane. The primer shall be dry with a surface before applying TREMproof 250GC.

6. MEMBRANE APPLICATION

6.1 Apply the first coat of TREMproof 250GC at a rate of 18 ft²/gal (0.44 M²/L) to yield 90-mils. Allow the TREMproof 250GC to cure to a firm rubber, 16 to 24 hr at 75 °F (23 °C), 50% RH.

6.2 Prime all existing TREMproof 250GC using Vulkem 191 QD Primer. Allow primer to dry to a tacky non-transferable film. If open time is exceeding and primer has lost tack, re-prime with Vulkem 191 QD Primer.

6.3 Install an additional 53 ft²/gal (1.30 M²/L), yielding 30-mils (wet) lift of TREMproof 250GC.

6.4 Embed the TRA sheeting into the wet membrane immediately.

6.5 Apply consistent pressure to achieve full adhesion of the sheeting to the wet membrane. Sheeting must fully conform to all angle changes, with no bridging or voids.

6.6 Install TRA sheeting so all seams are overlapped a minimum of 3" (37 mm) in proper shingle lap fashion.

6.7 Detail all seams with TREMproof 250GC-T membrane, with a minimum of 2" (52 mm) at 60-mils on both sides of the seam. Protect seams with 6 to 12" (152 to 304 mm) of Tremco 2450 or 6-mil polyethylene sheeting.

6.8 The cure rate of TREMproof 250GC may be accelerated by adding water. Water may be added to TREMproof 250GC-SL only. Water shall be bottled or tap. Add 4-oz (1/2 cup, 118 mL) water for every 5-gal (18.9 L) of TREMproof 250GC-SL. Mix the material by producing a vortex close to the surface of the pail and add the water. Following the addition of water, continue mixing the membrane to evenly disperse the added water for up to 1 minute. Exceeding the recommended 1 minute of mixing may result in introducing an excessive amount of air into the membrane. Exceeding the recommended 4-oz (1/2 cup, 188 mL) of water per 5-gal pail of membrane may result in a reduction of working time.

6.9 Temperature approximate cure time * {>80 °F (27 °C) = 3 to 4 hr} {40 to 80 °F (4 to 27° C) = 6 to 12 hr} {<40 °F (4 °C) = 72 hr}.

6.10 Terminations shall be installed in accordance with ASTM D898 Standard Guide for Use of High Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Separate Wearing Course and ASTM C1471 Standard Guide for Use of High Solids Content Cold Liquid-Applied Elastomeric Waterproofing Membrane on Vertical Surface.

6.11 Vertical wall terminations should be made a minimum 6" (15 cm) above the finish grade or brick ledge when connecting to an air/vapor barrier beneath and exterior facade. For applications where the concrete wall is to be exposed above grade, terminate no more than 2" (50 mm) below grade. The waterproofing systems should terminate a minimum of 12" (300 mm) below the lower floor line or on top of the footing a minimum of 6" (152 mm) out from the wall. When terminating below the lower floor line or on top of the footing, do not terminate the waterproofing system above the drainage collection level. The waterproofing system should overlap a minimum of 4-6" (102-152 mm) onto intersecting walls, columns, or counterforts.

6.12 The vertical waterproofing system should connect with the below slab waterproofing and air barrier systems when used. When the same system or compatible materials are used, they may overlap. When connecting with a horizontal plaza, make sure the materials are compatible prior to installation. Contact your local Tremco Sales Representative or Technical Services.

6.13 For horizontal applications where the membrane is turned up on a wall, terminate the waterproofing to eliminate the possibility of ponded surface water penetrating the wall above the membrane. The minimum height is determined by the designer and should take into account the opportunity for such occurrence as well as the building's geometry and environment.

6.14 On horizontal slabs, a flood test should be run in accordance with ASTM D5927. The membrane should be cured to a firm rubber set (36 hr minimum) before flooding. Flood with a minimum of 1" (25 mm) of water for 24 hr. As an alternative, Electronic Field Vector Mapping may also be used. Please contact you EFVM manufacturer for assistance with this method.

6.15 For upturns, secure top edge of TRA Sheeting to wall by using a Paraterm bar fastened at 8" (203 mm) centers. Encapsulate Paraterm bar using TREMproof 250GC-T.

6.16 Allow membrane to fully cure before installing overburden.

6.17 Protect waterproofing system from damage during and after installation.