TREMCO

APPLICATION INSTRUCTIONS

TREMproof 250GC®

Single-Component, Rapid Curing, Fluid-Applied Elastomeric Waterproofing Membrane

1. PURPOSE

The purpose of this document is to establish uniform procedures for installing TREMproof 250GC cold fluid-applied membrane in below-grade waterproofing applications.
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 TREMproof 250GC cold fluid-applied membrane 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. POSSIBLE SYSTEM COMPONENTS

- Dymonic® 100
- TREMgrip
- HDPE Protection Course
- Paraterm® Bar
- TREMDrain® Series Drain Mats
- Tremco 2450 Protection Board
- Tremco Protection Mat
- Nudura® Insulated Concrete Forms (ICF)
- ExoAir® Low-Expanding Foam (LEF)
- Nudura® Low-Expansion Spray Foam

4. AVAILABILITY

4.1 Locate your local Tremco Distributor at www.tremcosealants.com.

5. STORAGE

5.1 Material containers should be stored at room temperature out of the elements. If this is not possible then the material should be tarped to protect from inclimate weather.

6. SUBSTRATE PREPARATION

6.1 Investigation of the substrate should be performed to determine the type of surface preparation that will need to take place to achieve the appropriate surface profile required for the membrane application. Depending on the condition of the concrete, one or more types of surface preparations may be required. Refer to ICRI's Technical Guideline No. 310.2R-2013 – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair for best practices on selecting the appropriate method of concrete preparation. Thin film and high-build membrane applications will require the surface profile, CSP 2-4.

7. SUBSTRATE CONDITIONS

7.1 Surface to be waterproofed may be dry or damp concrete, dry plywood, or dry treated plywood 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 the TREMproof 250GC.

7.2 Concrete slabs should be light steel troweled followed by a fine hair broom or equivalent finish achieving a CSP 3 – 4. Concrete surface shall be free of voids, exposed aggregate areas, honey combs, splatters, ridges, fins and other projections or depressions which preclude a smooth and level surface. All reinforcing, including cut off rebar, shall be covered by a minimum of ¾ in. (18 mm) of concrete, epoxy or approved repair mortar.

7.3 Concrete to receive waterproofing shall be water-cured. Note: Consult Architect or Engineer for minimum cure time on concrete before water cure 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 or Technical Services prior to membrane application. Tremco will not accept responsibility for adhesion failures caused by curing compounds.

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

7.5 Plywood that is to receive waterproofing shall be exterior grade, 5/8 in. (16 mm) thick minimum, with "A" side up, well fastened with ring-shank nails or screws. Most cement board products are acceptable substrates. Please contact your local Tremco Representative or Technical Services for review prior to membrane application.
NOTE: OSB and particle board are not acceptable as substrates for the application of TREMproof 250GC.

7.6 For metal or other nonporous substrates, the surface needs to be mechanically abraded, cleaned and primed with TREMprime Nonporous Primer.

7.7 Metal flashing that is to receive waterproofing shall be set in a continuous bead of Dymonic 100 or TREMgrip. Install sealant in an S-bead fashion between metal laps and mechanically fasten to the substrate along the leading edges every 4 in. (10 cm) on center, staggered linearly to lie flat without fishmouths. To keep this from occurring, do not countersink fasteners; keep them flush. It is recommended that the wood or concrete be routed on the leading edges, so the flashing lies flush with the decking.

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

7.9 All penetrations shall be encased in concrete and/or solid grouted in place. 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 in. (5 cm) apart to allow for detail work around penetrations. If pipes are sleeved the waterproofing inside the sleeve is the responsibility of other parties.

7.10 Nudura Insulated Concrete Forms or similar – the surface must be dry, clean free of dust, dirt, or any other substances that might prevent placement and bonding of the TREMproof 250GC. During extended periods of UV exposure the ICF will develop a white chalking appearance. It will be necessary to rasp and broom the surface of the ICF prior to application of the membrane. It is recommended that a field adhesion pull test be administered to ensure proper membrane adhesion. Please contact your local Tremco Representative or Technical Service prior to the application of TREMproof 250GC.

8. DETAIL WORK — CONCRETE SUBSTRATES

NOTE: Do not apply sealant or membranes to a frosty or wet surface or when the temperature is above 110 °F (43 °C)

8.1 All shrinkage cracks shall be treated with a 30-mil detail coat of TREMproof 250GC, 6 in. (15 cm) wide, centered over the crack.

8.2 Moving structural cracks greater than 1/16 in. (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 in. (7.6 cm) on both sides of the crack.

8.3 A 1 in. (2.5 cm) cant of Dymonic 100, ExoAir LEF or Nudura Low-Expansion Spray Foam shall be install around all penetrations. Install a 30-mil detail coat of TREMproof 250GC extending 2 in. (5 cm) onto the penetration and 6 in. (15 cm) onto the surrounding substrate. Penetrations must be rigidly supported as to not allow movement of penetrating item and non-flexible. Please refer to section 7.9 for more detail.

8.4 Inside and outside corners shall be treated with a 30-mil detail coat of TREMproof 250GC extending a minimum 3 in. (7.6 cm) onto both sides of the corner. Inside corners should be caulked with Dymonic 100 or TREMproof 250GC-T. Outside corners should have a ¾ in. to 1 in. (1.8 to 2.5 cm) chamfer.

8.5 A 1 in. (2.5 cm) cant of TREMproof 250GC-T or Dymonic 100 shall be installed at all horizontal-vertical junctures. Install a 30-mil detail coat of TREMproof 250GC 4 to 6 in. (10 to 15 cm) onto the horizontal and vertical junctures or to the length and height indicated in the drawings. The 30-mil detail coat is not required on footer to wall intersections in backfilled wall applications.

8.6 Detailing shall be wiped clean with xylene prior to the application of the membrane if exposed to dust and debris.

8.7 If detailing is exposed more than 24 hours at 72 °F and 50% R.H., apply the Vulkem 191 primer prior to the application of the membrane. The primer shall be dry with a surface tack before applying the TREMproof 250GC.

9. DETAIL WORK — PLYWOOD SUBSTRATES

9.1 Detail plywood joints with Dymonic 100 followed by a 30-mil detail coat of TREMproof 250GC extending 3 in. (7.6 cm) onto both sides of the joint.

9.2 Install a 1 in. (2.5 cm) cant of Dymonic 100 or TREMproof 250GC-T around all penetrations. Install a 30-mil detail coat of TREMproof 250GC extending 2 in. (5 cm) onto the penetration and 4 to 6 in. (10 to 15 cm) onto the surrounding substrate. The penetration must be rigidly supported as to not allow movement of the penetrating item and non-flexible. Penetrations shall be spaced a minimum of 2 in. (5 cm) apart to allow for detail work around penetrations. If pipes are sleeved the waterproofing inside the sleeve is the responsibility of other parties.

9.3 Inside corners shall be treated with a fillet bead of Dymonic 100 or TREMproof 250GC-T. Install a 30-mil detail coat of TREMproof 250GC extending 3 in. (7.6 cm) on to both sides of the corner. Outside corners and leading edge of plywood decking may require metal flashing. Refer to section 7.7.

9.4 Detailing shall be wiped clean with xylene prior to the application of the membrane if exposed to dust and debris.

9.5 If detailing is exposed more than 24 hours at 72 °F and 50% R.H., apply the Vulkem 191 primer prior to the application of the membrane. The primer shall be dry with a surface tack before applying the TREMproof 250GC.

10. DETAIL WORK — NUDURA INSULATED CONCRETE FORMS (ICF)

10.1 Inspect the Nudura ICF for any defects and note UV exposure time as referenced in section 7.10. Prep all gaps, cuts, or defects over 1/16 in. (1.6 mm) with Dymonic 100, ExoAir LEF or Nudura Low Expansion Spray Foam.

10.2 At the horizontal to vertical transition where the footing wall joint occurs, prep the gap between the footing and the Nudura form with Dymonic 100, ExoAir LEF or Nudura Low Expansion Spray Foam. Waterproof the footing all the way to the front edge. When attaching TREMDrain or other drainage panels to ICF forms, use a non-self drilling coarse thread screw into the fastening strip of the ICF form. Consult your Tremco or Nudura Technical Representative for availability and detailed application instructions on these products.

10.3 When attaching drainage and protection courses to ICF forms, use a non-self drilling coarse thread screw into the fastening strip of the ICF forms. Consult your Tremco Technical Representative for availability and detailed application instructions for these products.

11. DETAIL WORK — EXPANSION JOINTS (HORIZONTAL AND VERTICAL)

11.1 Side wall of expansion joint(s) shall be parallel, smooth, and straight. Expansion joints running through planters, walls, or at building to deck shall have a curb to curb construction approved by waterproofing contractor and architect/engineer.

11.2 Install a 30-mil detail coat of TREMproof 250GC extending a minimum of 6 in. (15 cm) onto both sides of the expansion joint. Install TRA Sheeting a minimum of 6 in. (15 cm) onto both sides of the expansion joint making sure there is slack within the sheeting to accommodate anticipated movement. Installation over a foam backer is recommended for the application of the sheeting. Fasten the sheeting on both sides using Tremco's Paraterm Bar or equivalent termination bar. Apply the field coat of TREMproof 250GC over the termination bars and over the sheeting. When the sheeting terminates overlap the subsequent sheet a minimum of 2 in. (5.1 cm) and seal inside the overlap with TREMproof 250 GC.

11.3 Detailing shall be wiped clean with xylene prior to the application of the membrane if exposed to dust and debris.

11.4 If detailing is exposed more than 24 hours at 72°F and 50% R.H., apply the Vulkem 191 primer prior to the application of the membrane. The primer shall be dry with a surface tack before applying the TREMproof 250GC.

11.5 For vertical below-grade expansion joints, please contact your local Tremco Representative. Both vertical and horizontal expansion joints may be treated with the proper WILLSEAL expansion joint system. For further identification of the proper Willseal joint system for your project please contact your local Tremco Representative.

12. MEMBRANE APPLICATION

NOTE: When asphaltic membranes, self-adhering flashings, or self-adhering sheet membranes, are to come into contact with TREMproof 250GC, use Tremco Epoxy Primer at the overlap condition.

NOTE: When applying the membrane over Insulated Concrete Forms, be careful of the pressure exerted during the measurement of the mil thickness with a wet film gauge. Please use the mil gauge appropriately and do not press it into the surface of the ICF.

Standard Application- Vertical or Horizontal

12.1 TREMproof 250GC shall be roller, squeegee, or trowel applied at the rate of 25 ft²/gal (0.66 m²/L) to provide a wet film thickness of 60 mils. For higher build vertical wall applications, the TREMproof 250GC R grade may be applied in a single lift thickness of approximately 90 mils.

High Build Application

12.2 A single lift system of TREMproof 250 GC may be installed in a single pass up to 120 wet mils at a rate of 18 ft²/gal (0.32 m²/L).

Multi-lift 215 mil System — Horizontal

12.3 Apply the first coat of TREMproof 250GC at a rate of 18 ft²/gal (0.44 m²/L) to yield 90 wet mils. Allow the TREMproof 250GC to cure to a firm rubber, 16-24 hours at 75 °F (23 °C), 50% R.H., then apply Vulkem 191 primer. Let the primer dry to a tack. Apply the second coat of TREMproof 250GC at a rate of 12.7 ft²/gal (0.31 m²/L) yielding 125 wet mils.

12.4 The cure rate of TREMproof 250GC S/L may be accelerated by adding water to the 5 gallon pail. Water should be added to the TREMproof 250GC S/L 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 S/L. 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 up to 2-3 minutes. Take care not to introduce excessive amounts of air into the membrane. Do not exceed the recommended 4 oz. (118 ml) of water.

12.5 Temperature Approximate cure time*: {> 80 °F (27 °C) – 3 to 6 hours}, {40° to 80 °F (4° to 27 °C) – 6 to 24 hours}, {< 40 °F (4 °C) 72 hours and greater}

12.6 Terminations shall be installed in accordance with ASTM C898 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 Surfaces.

12.7 When connecting to an air/vapor barrier beneath an exterior façade, vertical wall terminations should be made a minimum 6 in. (15 cm) above the finish or brick ledge or per specified by the location in the detailed drawings. For applications where the concrete wall is to be left exposed (no façade above grade), terminate no more than 2 in. (5 cm) below grade. The waterproofing systems should terminate a minimum of 12 in. (30 cm) below the lower floor line or on top of the footing a minimum of 6 in. (15 cm) out from the exterior side of 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 24 in. (60 cm) onto intersecting walls, columns, and counterforts.

12.8 The vertical waterproofing 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 all compatible prior to installation. Contact your local Tremco Sales Representative or Technical Services.

12.9 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 buildings geometry and environment.

12.10 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 buildings geometry and environment.

12.11 An approved protection course and/or TREMDrain Series Drainage Mat must be placed after the membrane is cured to a firm rubber set, minimum 4-6 hours at 75 °F (23 °C), 50% R.H. at 60 mils thickness. Thicker millage will increase the cure time.

a. On horizontal slabs, a flood test should be run in accordance with ASTM D5957. The membrane should be cured to a firm rubber set (36 Hr. minimum@75 °F (23°C)) before flooding. Flood with a minimum 1 in. (2.5 cm) of water for 24 hours. As an alternative. ELD testing may be employed on the TREMproof 250GC R. Please see technical bulletin available at www.tremcosealants.com .

13. TROUBLESHOOTING

13.1 Pinholing can occur through the membrane and is a result of environmental conditions and concrete mix design. Prior to installing the TREMproof 250GC evaluate the substrate and refer to the pinholing technical bulletin available at www.tremcosealants.com

13.2While freezing will not harm the TREMproof 250GC, please contact technical services for direction when attempting to apply the membrane below the recommended temperature of 40°F (4.4°C).

T250GCAI-BG/0722