

APPLICATION INSTRUCTIONS

1. Purpose

- 1.1 The purpose of this document is to establish uniform procedures for installing TREMproof® 250GC cold fluid-applied membrane in below-grade 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 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
- HDPE Protection Course
- Paraterm® Bar
- TREMDrain® Series Drainage Mats and Protection Boards
- Tremco 2450 Protection Board
- Tremco Protection Mat
- Nudura® Insulated Concrete Forms (ICF)
- ExoAir® Low-Expanding Foam (LEF)
- Nudura® Low-Expansion Spray Foam
- TREMproof® 250GC-T

4. Substrate Preparation

- 4.1 Surface to be waterproofed may be dry or damp concrete 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 TREMproof 250GC.
 - 4.2 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 3/4" (18 mm) of concrete, epoxy or approved repair mortar.
- 4.3 Concrete that is to receive waterproofing shall be water-cured.

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.

- 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 Plywood that is to receive waterproofing shall be exterior grade plywood, 5/8" (16 mm) thick minimum, with "A" side up, fastened with ring-shank nails. OSB and particle board are not acceptable as a substrate.
- 4.7 For metal or PVC substrates, surface needs to be mechanically abraded, cleaned and primed with TREMprime Non-Porous Primer.
- 4.8 Metal flashing that is to receive waterproofing shall be set in a continuous bedding bead of Dymonic 100. Install sealant S-bead between metal laps and mechanically fasten to substrate along leading edges every 4" (10 cm) O.C., staggered linearly to lie flat without fishmouths. To keep this from occurring, do not countersink fasteners; keep them flush. It is preferred the wood or concrete be routed in the leading edges, so the flashing lies flush with the decking.
- 4.9 For horizontal applications, follow good drainage practice to permit unimpeded water flow to drain(s) that are a type and number sufficient to allow water to thoroughly evacuate the membrane surface.
- 4.10 All penetrations shall be encased in concrete. Penetrations must be 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" (5 cm) apart to allow for detail work around penetration. All copper piping shall be sleeved with sleeve extending through slab and above any planter fill. The waterproofing of the inside of the sleeve is the responsibility of other parties.
- 4.11 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 Tremco, waterproofing contractor and architect/engineer.
- 4.12 **Nudura Insulated Concrete Forms or Insulated Concrete Forms—** Surface to be coated must be dry, clean, free of dust, mud, or any other substances that might prevent placement and bonding of membrane. After UV exposure it may be necessary to rasp and clean substrate to the standards above. Contact Tremco and/or Nudura technical services for additional information.

- 4.13 Prep all gaps cuts or defects over 1/16 in (1.6 mm) with Dymonic 100, ExoAir LEF or Nudura Low Expansion Spray Foam.

5. Detail Work

- 5.1 All shrinkage cracks shall be treated with a 30-mil coating of TREMproof 250GC, 6" (15 cm) 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 60-mil detail coat of TREMproof 250GC extending a minimum of 3" (7.6 cm) on either side of the crack.
- 5.3 A 1 in (25 mm) cant of Dymonic 100, ExoAir LEF or Nudura Low-Expansion Spray Foam shall be installed around all penetrations. Install a 60-mil detail coat of TREMproof 250GC extending 2" (5 cm) onto the penetration and 6" (15 cm) onto the surrounding substrate. Do not co-spray detail coat. Penetrations must be rigidly supported through membrane as to not allow movement of penetrating item.
- 5.4 Inside and outside corners shall be treated with a 60-mil detail coat of TREMproof 250GC extending a minimum of 3 in (7.6 cm) on either side of the corner. Inside corners should be caulked with Dymonic 100. Do not co-spray detail coat.
- 5.5 Base of wall shall be treated with TREMproof 250GC pre-applied at footing wall joint to replace a reinforcing cant or fill gap, pre-sprayed at 35-40 mils wet. Prep all gaps or joints over 1/16 in (1.6 mm) with Dymonic 100.
- 5.6 A 1" (2.5 cm) 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.
- Expansion joints coat of TREMproof 250GC, extending 3" (7.6 cm) on either side of the joint. For vertical below-grade expansion joints, please contact your local Tremco Representative.
- 5.4 b. Install TRA sheeting or elastomeric sheeting a minimum of 6" onto both sides of the joint making sure there is slack within the sheeting to accommodate anticipated movement. Installation over a foam backer is recommended in 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. At ends of sheeting, overlap the two meeting sheets at least 2" (51 cm). Seal the overlap with TREMproof 250GC.
- 5.5 Plywood joints shall be caulked with TREMproof 250GC-T or Dymonic 100 followed by a 30-mil details coat of TREMproof 250GC extending 6" (15 cm) on both sides of the joint.
- 5.6 A 1" (2.5 cm) cant of TREMproof 250GC-T or Dymonic 100 shall be installed around all penetrations. Install a 30-mil detail coat of TREMproof 250GC extending 2" (5 cm) onto the penetration and 6" (15 cm) onto the surrounding substrate.

- 5.7 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 corner.
- 5.8 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.
- 5.9 At footing wall joint, prep the gap between the footing and the Nudura form with Dymonic 100, ExoAir LEF or Nudura Low Expansion Spray Foam. The horizontal face of the footing should be waterproofed all the way to the edge.
- 5.10 If detailing is exposed more than 24 hours, apply Vulkem 191 Primer prior to application of the membrane. The primer shall be dry with a surface tack before applying TREMproof 250GC.
- 5.11 Detailing shall be wiped clean with xylene prior to the application of the membrane.
- 5.12 **Willseal Expansion Joints** — see Willseal Expansion Joint Application Instructions. Contact your Willseal Technical Service Representative.

6. Membrane Application

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

- 6.1 Standard Application - Vertical or Horizontal
- TREMproof 250GC shall be roller, squeegee or trowel applied at the rate 25 ft²/gal (0.66 M²/L) to provide a thickness of 60 mils.

NOTE: When applying over Insulated Concrete forms, be mindful of the pressure at which mil thickness is being measured. Mil gauges, when used appropriately, should not be pressed into the surface of insulated concrete forms.

- 6.2 High Build Application - Horizontal
- SINGLE LIFT SYSTEM TREMproof 250GC may be applied in a single pass up to 120 mils for horizontal applications. Apply at a rate of 13 ft²/gal (0.32 M²/L.)
- 6.3 Multi-lift 215-mil system
- 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, 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 mils.
- 6.4 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



1220/T250GCAI-BG

Please refer to our website at www.tremcosealants.com for the most up-to-date application instructions.

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the added water for up to 1 minute. Exceeding the recommended 1 minute of mixing may result in introducing an excessive amount of air in the membrane. Exceeding the recommended 4 oz (1/2 cup) of water per 5-gal pail of membrane may result in a reduction of working time.

- 6.5 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}

*Dependent upon environment conditions i.e. substrate temperature, humidity, etc.

- 6.6 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.

6.6a. 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 an exterior facade. For applications where the concrete wall is to be exposed above grade, terminate no more than 2" (5 cm) below grade. The waterproofing systems should terminate a minimum of 12" (30 cm) below the lower floor line or on top of the footing a minimum of 6" (15 cm) 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 24" (60 cm) onto intersecting walls columns or counterforts.

6.6b. 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.

6.6 c. 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.

- 6.7 An approved protection course and/or TREMDrain Series drainage mat may be placed after membrane is cured to a firm rubber set, minimum 4 hr at 75°F (23 °C), 50% RH.

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

- 6.8 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) before flooding. Flood with a minimum of 1" (2.5 cm) of water for 24 hr. As an alternative, Electronic Field Vector Mapping may also be use

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