APPLICATION INSTRUCTIONS

TREMPRO™ 160

Single-Component, Fluid-Applied Asphalt Emulsion, Waterproofing Membrane

1. PURPOSE

1.1 The purpose of this document is to establish uniform procedures for installing TREMPRO 160 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 TREMPRO 160 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
- TREMDrain DPI
- TREMPRO 160

4. SUBSTRATE PREPARATION

4.1 Substrate to be waterproofed may be dry or damp concrete, CMU, and Insulated Concrete Forms 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 TREMPRO 160.

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.

a. 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 All penetrations shall be secured in concrete. Penetrations must be solid grouted in place. No flexible pipe or corrugated pipe of any type shall be used for penetrations. Penetrations shall be spaced a minimum of 2" (5 cm) apart to allow for detail work around penetration. The waterproofing of the inside of the sleeve is the responsibility of other parties.

4.7 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.

4.8 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 TREMPRO 160, 6" (15 cm) wide, centered over the crack.

5.2 Moving structural cracks greater than 1/16 in (1.6 mm) shall be caulked with TREMPRO 160 or Dymonic 100, followed by a 60-mil detail coat of TREMPRO 160 extending a minimum of 3 in (7.6 cm) on either side of the crack.

5.3 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.

5.4 A 1" (2.5 cm) cant of TREMPRO 160 or Dymonic 100 shall be installed around all penetrations. Install a 30-mil detail coat of TREMPRO 160 extending 2" (5 cm) onto the penetration and 6" (15 cm) onto the surrounding substrate.

5.5 Inside corners shall be treated with a fillet bead of TREMPRO 160, or Dymonic 100. Install a 30-mil detail coat of TREMPRO 160 extending 6" (15 cm) on either side of the corner.

5.6 Outside corners should have a 3/4" to 1" (18 to 25 mm) chamfer. Install a 30-mil detail coat of TREMPRO 160 extending 6" (15 cm) on either side of the corner.

6. MEMBRANE APPLICATION

Standard Application — Roller

6.1 TREMPRO 160 shall be roller applied with a heavy nap roller (3/4" – 1 ¼") at the rate 25 ft²/gal (0.66 M²/L) to provide a thickness of 60 mils.

6.2 TREMPRO 160 membrane can be applied to surfaces using standard application procedures down to 20°F (-7° C).

6.3 The membrane should be applied to a minimum thickness of 60 mils wet, measured in-place on the wall with a notch film gauge. The product will cure to dry film thickness of 40 mils. Use a notch film mil gauge to ensure proper application thickness. Gauges can be obtained from Tremco.

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.

6.4 Coverage rates will be appx 20-25 sq ft/gal may be lower depending on the porosity of the block, parged block, or poured concrete walls. It is the contractor's responsibility to ensure that 40 cured mils are on the exterior of the vertical wall when the waterproofing is completed.

6.5 Careful attention must be taken during the application process to ensure a consistent, homogeneous membrane.
For best results when rolling, keep nap rollers full of material, empty rollers will result in undesirable mil rates. Avoid applying excessive pressure when rolling material.
*Continue to step 6.8

Spray Aplication

6.6 To ensure proper temperature at the spray gun, insulate the lines and pump housing of the spray pump. When spraying below 50°F (10°C) ambient temperature, it is highly recommended to have your equipment and material enclosed in a heated compartment.

6.7 Spray TREMPRO 160 membrane in a pressure range between 2200 and 2800 psi. For best results use a .035 or .039 tip. For atomization and curing reasons, do not use any tip larger than a .039.
For best results when spraying, apply TREMPRO 160 membrane using a two-coat technique utilizing a tack coat on an entire wall and a second coat to build up to the required wet mil thickness. A tack coat will reduce bubbling and pin holing caused by poured concrete walls curing and outgassing. An applicator may choose to spray the TREMPRO 160 membrane in one coat. This type of application must be carefully completed to ensure no thin spots. A one-coat application will be more prone to bubbling and pin holing on poured concrete walls.

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1350 Gay-Lussac, Unit: 3
Boucherville QC J4B 7G4
514.521.9555

Part of TREMCO Construction Products Group

Cold Temperature Application

6.8 It is possible for the TREMPRO 160 membrane to be applied at temperatures lower than 20°F (-7°C). Prior to application material must be stored at minimum 50°F (10°C); Do not allow material to freeze. The contractor assumes responsibility for ensuring the TREMPRO 160 fully cures to a dry film thickness of 40 mils. Applying the 60-mil wet thickness of the TREMPRO 160 membrane in one coat is recommended for application temperatures below 20°F (-7°C).
It may take longer than 24 hours for the TREMPRO 160 membrane to fully cure during periods of low temperatures, high humidity, rainfall or snowfall following the membrane application. Therefore, wash-offs due to the application of TREMPRO 160 membrane during or immediately before inclement weather are possible. The Tremco contractor assumes responsibility for ensuring the TREMPRO 160 fully cures to a dry film thickness of 40 mils in all areas of application.

6.9 Inspect the coated wall thoroughly for pin holing, voids or thin spots. Lightly re-spray or roll any areas requiring additional milage to the correct thickness for the substrate.

6.10 After application, applicator must verify that:

a. Adequate foundation drainage system is installed (See Drainage Requirements).
b. All penetrations (water, sewer, etc.) have been properly sealed.
c. Backfill does not exceed the level of the waterproofing membrane.
d. Grade slopes away from the foundation.
e. 40 cured mils are on the wall.
f. Backfill does not occur until the TREMPRO 160 membrane is fully cured.

6.11 The waterproofing contractor or applicator may pass the responsibilities in number 6.10 on to the builder or general contractor and ensure that the builder or general contractor is aware of these responsibilities, should they do so.

7. DRAINAGE AND PROTECTION BOARD INSTALLATION

NOTE: The use of TREMDrain drainage and/or protection board is highly recommended with the TREMPRO 160 waterproofing system.

7.1 Applying theTREMDrain DPI Protection Board at the correct time is essential to ensure good adhesion to the TREMPRO 160 membrane. The board must be set as the membrane begins to cure. The proper timing for this will vary.

7.2 To install the TREMDrain DPI, place the bottom of the board on the footing at the footing/wall joint and press firmly. Slowly work your way up to the top of the board carefully pressing the board onto the membrane. Take special care not to slide the board. The board may appear to be loose, but as the membrane cures, it will draw the board in resulting in excellent adhesion between the board and the membrane. If the board falls off, check the integrity of the membrane and re-spray to 60 mils wet if needed. It may be necessary to spray a mist of TREMPRO 160 membrane on the wall to increase adhesion.

7.3 Place the TREMDrain DPI around the foundation in the same direction as the membrane was applied. All boards should be checked before leaving the job site. When the TREMDrain DPI Board is applied, the foundation can be backfilled in 24 hours. It may take longer during some weather condition for the TREMPRO 160 membrane to cure, and the foundation should not be backfilled until the membrane is fully cured.

7.4 When installing 4’ x4’ boards, install the bottom board first them immediately place the top board. This prevents any excess TREMPRO 160 membrane from running down and onto the top edge of the bottom board.

7.5 It may be difficult to achieve the desired adhesion characteristics when applying the thicker TREMDrain DPI or if the foundation wall is not smooth. When attaching TREMDrain DPI 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 Technical Representative for availability and detailed application instructions on these products.

8. CRAWLSPACES

8.1 Crawlspaces must have a proper exterior drainage system that channels water to the lower foundation footing drains which drain to a functional sump or to drainage pipe properly sloped to daylight.

8.2 Crawlspaces must have a finished concrete floor.

8.3 Exterior crawlspace walls must be Insulated Concrete Forms, block, parged block, poured concrete and must meet preparation requirements listed above

9. ADDITIONS

9.1 The addition must have a proper exterior drainage system that channels water to a functional sump or to drainage pipe properly sloped to a daylight exit.

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1350 Gay-Lussac, Unit: 3
Boucherville QC J4B 7G4
514.521.9555

Part of TREMCO Construction Products Group

9.2 Addition walls must be block, parged block, poured concrete, or pre-cast concrete and must meet preparation requirements listed above. Exterior crawlspace walls must be Insulated Concrete Forms, block, parged block, poured concrete and must meet preparation requirements listed above.

9.3 The cold joint between existing foundation wall and the new addition wall must be prepared with a urethane based cold liquid applied waterproofing material, applied and fully cured per manufacturer's instructions, to a minimum of 4 inches on both sides of the joint prior to the 60-mil application of TREMPRO 160 membrane. This cold joint area must also have a drainage/protection board applied over the urethane liquid membrane and TREMPRO 160 membrane.

10. TOP OF WALL TRANSITIONS

10.1 In some building markets, it is common to see a few rows of block masonry on top of a poured wall, or a short-poured wall on top of a block masonry wall. The cold joint between the two different foundation materials must be prepared by an application of a urethane based, cold liquid-applied waterproofing material, applied and fully cured per manufacturer's instructions, spanning the joint and extending a minimum of four inches above and below the joint, prior to the 60-mil application of TREMPRO 160 membrane.

10.2 If the entire wall is parged with one continuous smooth coating covering both the block and poured sections without interruption, apply the TREMPRO 160 membrane following the normal procedure for parged walls.

3735 Green Rd
Beachwood OH 44122
216.292.5000 / 800.321.7906

1451 Jacobson Ave
Ashland OH 44805
419.289.2050 / 800.321.6357

220 Wicksteed Ave
Toronto ON M4H1G7
416.421.3300 / 800.363.3213

1350 Gay-Lussac, Unit: 3
Boucherville QC J4B 7G4
514.521.9555

Part of TREMCO Construction Products Group