1. PURPOSE

1.1 The purpose of this document is to establish uniform procedures for applying TREMproof® 6100.

1.2 The techniques involved may require modifications to adjust to jobsite conditions. 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 exist on a project, Tremco recommends that the local Tremco Sales Representative or Technical Services be contacted for assistance and approval as required.

2. SCOPE

2.1 This document will provide the necesssary instructions for the application of TREMproof 6100 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

3.1 Dymonic® 100
3.2 Dymeric® 240 FC
3.3 Paraterm® Bar
3.4 POWERply®
3.5 Tremco DualFlex®
3.6 Tremco Elastomeric Sheeting
3.7 Tremco 2450 Protection Board
3.8 Tremco 2550 Protection Board
3.9 Tremco 2560 Protection Board
3.10 Tremco Protection Mat
3.11 TREMDrain® Series Drainage Mats and Protection Boards
3.12 TREMprime® QD Low-Odor Primer
3.13 TREMprime® WB Primer
3.14 TREMprime® HR Primer
3.15 Tremco Reinforcing Fabric
3.16 Tremco PUMA Flashing
3.17 Approved Willseal® Expansion Joints

4. SUBRTRATE PREPARATION

4.1 Concrete shall be water-cured and in place for at least 28 days after form removal. The moisture content shall not exceed 5.2% measured using a Tramex CME-4 meter or 85% RH as measured in-situ in accordance with ASTM F2170.

4.2 Concrete surface shall be a wood float or light broom finish achieving a CSP 3-4. Concrete surfaces should be free of voids, exposed aggregate areas, honeycombs, 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 or approved epoxy or repair mortar.

4.3 Surface to receive membrane shall be sound, dry, clean and free of all dirt, dust, oil, grease, wax, tar, asphalt, mildew, mold, paint, sealers, coatings, curing agents, loose particles, laitance and other contamination or foreign matter which may interfere with the adhesion of the membrane. For appropriate surface moisture content, refer to section 4.1. Concrete that is to receive waterproofing shall be water-cured. Contact your local Tremco Sales Representative should a curing compound be required. Concrete surface-applied, membrane-forming curing compounds should not be used and may need to be removed prior to application.

4.4 All cast-in-place concrete, masonry, and concrete masonry unit (CMU) walls must have all joints solid grouted and struck

flush with no voids. CMU grout lines should be struck flush and blocks should be filled prior to application of TREMproof 6100.

4.5 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 substrates.

4.6 Metal flashing that is to receive waterproofing shall be set in a continuous bedding bead of Tremco approved sealant. 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.

4.7 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.

4.8 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 through slab penetration. Penetrations shall be spaced a minimum of 2" (5 cm) apart to allow for detail work around prnetration. All copper piping shall be sleeved with sleeve extrending through slab. The waterproofing of the inside of the sleeve is the responsility of other parties.

4.9 Sidewalls of expansion joines shall be parallel, smooth and straight. Block out, if required, shall be per the recommendations of the manufacturer. Expansion joints running through planter, walls, water features, or at builiding to deck shall have a curb to curb constrcution approved by Tremco, waterproofing contractor and architect/engineer.

5. EQUIPMENT

5.1 Heating of TREMproof 6100 is accomplished utilizing a double-jacketed, oil-bath melter with mechanical agitation, specifically designed for applying non-direct fired, hot rubberized, asphalt waterproofing membranes. An air-jacketed melter is also acceptable. Melter must be capable of maintaining material temperature at 375 to 425 °F (191 to 218 °C), and an oil-bath temperature of 500 to 550 °F (260 to 288 °C). Direct fired melter are not approved.

6. HEATING TREMPROOF 6100

6.1 Begin melter warm-up at least 2 to 3 hr prior to material installation. Melter must be free of all foreign material.

6.2 TREMproof 6100 is packaged in a polyethylene bag that is inserted in a cardboard box or paddled into a 55-gal drum. Remove the cardboard to place the TREMproof 6100, still lined with the polyethylene bag, into the heated melter.

6.3 Add TREMproof 6100 to maintain the melter at ¾ capacity at all times.

6.4 Maintain Material temperatures at 375 to 425 °F (191 to 218 °C) with constant agitation. Overheating will cause TREMproof 6100 to bind, then coagulate to the walls of the melter, adversely affecting the material performance properties.

7. DETAIL WORK

Note: Do not apply membranes to a frosty, damp or wet surface. For more information, please consult appropriate Detail Drawings for Hot Applied Membranes published on our website www.tremcosealants.com. If using TREMproof PUMA Flashing system for detailing, please refer to the system specific application instructions on our website.

7.1 SHRINKAGE CRACKS. Any non-moving cracks 1/16" (1.6 mm) or less shall be primed with Tremco approved primer 8 to 12" (20 to 30 cm) on both sides of the crack. When primer is dry, apply 90 mils of TREMproof 6100, 6" (15 cm) on both sides of the crack and immediately embed the reinforcing fabric. Cover the entire detail with the fully reinforced TREMproof 6100 system.

7.2 LARGE CRACKS AND COLD/CONSTRUCTION JOINTS UP TO 1/4" (6 mm). All cracks 1/16" to 1/4" (1.6 to 6 mm) shall be primed with Tremco approved primer 8" (20 cm) on both sides of the crack. When primer is dry, apply a minimum 90 mils of TREMproof 6100 extending 6" (15 cm) on either side of the crack and embed a minimum 12" (30 cm) wide strip of Tremco Elastomeric Sheeting or Tremco DualFlex into the hot material. The sheet must be free of fishmouths. Lap separate lengths of Elastomeric Sheeting or Tremco DualFlex a minimum of 12" (30 cm) and adhere with 125 mils of TREMproof 6100. Cover the entire detail with the fully reinforced TREMproof 6100 system. If the crack or joint width exceeds 1/4" (6 mm), contact Tremco for recommendations.

7.3 EXPANSION JOINTS UP TO 2-1/2 "(6 cm). There are three ways to treat floor to floor expansion joints.

a. Apply Tremco approved primer 8" (20 cm) on both sides of the joint and allow to dry. Install backer rod into the joint. Size Tremco Elastomeric Sheeting or Tremco DualFlex equal to the total anticipated design movement plus enough sheeting to cover a minimum 6" (15 cm) on each side of the joint. If necessary, lap separate lengths of Tremco Elastomeric Sheeting or Tremco DualFlex a minimum 12" (30 cm) and adhere with 125 mils of TREMproof 6100. As an option, terminate both sides of Tremco DualFlex or Tremco Elastomeric Sheeting with Paraterm Bar, fastened every 8" (20 cm) O.C. TREMproof 6100 should then be applied at a minimum of 12" (30 cm) to both sides of the joint at a 125-mil thickness. Cover the entire detail area with fully reinforced TREMproof 6100 system.

b. Apply Tremco approved primer 8" (20 cm) on both sides of joint. When primer is dry, install a 90-mil detail coat 6" on either side of the joint. Embed Elastomeric Sheeting or Tremco DualFlex into TREMproof 6100 on one side of the joint.

Loop the sheet down into the joint a depth equal to, or greater than, the anticipated movement; then embed the other half of the sheet likewise on the other side of the joint. Coat the entire assembly with 125 mils of TREMproof 6100 and fill the loop flush with the deck. Cover the entire detail area with fully reinforced TREMproof 6100 system.
c.Install backer rod in joint, followed by Dymeric 240FC, flush with the top surface of the deck. When sealant is cured, apply Tremco approved primer 8" (20 cm) on both sides of the joint and allow to dry. Apply a 90-mil thickness of TREMproof 6100 extending 6" (15 cm) on either side of the joint. Embed Tremco Elastomeric Sheeting or Tremco DualFlex into the detail coat, extending 6" (15 cm) on either side of the joint. If necessary, lap separate lengths of Tremco Elastomeric Sheeting or Tremco DualFlex a minimum of 12" (30 cm) and adhere with 125 mils of TREMproof 6100. Cover the entire area with fully reinforced TREMproof 6100 system.
d. Willseal Expansion Joints — see Willseal Expansion Joint Application Instructions. Contact your Willseal or Tremco Technical Service Representative

7.4 PROJECTIONS/PROTRUSIONS. Any and all exposed metal or hard PVC surfaces (pipes, sleeves, drains, vents, etc.) shall be cleaned. Remove oil, paints, rust, scales or any other foreign matter with wire brush or mechanical etching. With a clean cloth saturated with Tremco approved primer, wipe metal or PVC surface and 2" (5 cm) beyond penetrant then allow to dry. Install a 1" x 1" (2.5 x 2.5 cm) cant of TREMproof 6100 by building a double layer with reinforcing fabric. Allow the TREMproof 6100 to cool, so the material can be tooled into place with a trowel. Install fully reinforced TREMproof 6100 system to allowable specified height above expected waterline. Keep membrane below UV-exposed grade levels. Pipes may require stainless steel clamping rings.

7.5 DRAINS. Apply Tremco approved primer extending 8" (20 cm) beyond edge of drain. Install a 90-mil detail coat of TREMproof 6100 extending 6" (15 cm) beyond drain. Embed Tremco Elastomeric Sheeting into detail coat, extending 2" (5 cm) into drain and 6" (15 cm) beyond. Cover detail with fully reinforced TREMproof 6100 system. Membrane clamping ring is required for bi-level drains in split slab conditions.

7.6 CHANGE OF PLANES. Install TREMproof 6100 and Tremco Elastomeric Sheeting, Tremco DualFlex, or Tremco Reinforcing Fabric wherever a vertical surface or protrusion exists (parapet walls or other projections which penetrate up from the slab). Apply primer a minimum of 10" (25 cm) onto the horizontal surface and to the specified vertical height. Counter flashing should be installed such that the membrane will not be left exposed. When primer is dry, apply TREMproof 6100 at 90 mils thick and 8" (20.32 cm) onto horizontal surface and height specified vertical surface. Immediately embed Tremco Elastomeric Sheeting or Tremco DualFlex. The sheeting should extend a minimum of 3" (7.6 cm) onto the horizontal and as required vertical surface. Elastomeric Sheeting or Tremco DualFlex must be fully adhered and free of wrinkles and fishmouths. Lap separate lengths of Elastomeric sheeting or Tremco DualFlex a minimum of 12" (30 cm) and adhere with 125 mils TREMproof 6100. As an option, terminate Tremco Elastomeric Sheeting or Tremco DualFlex with Paraterm Bar, fastened every 8" (20 cm) O.C. Apply 125-mil thickness of TREMproof 6100 over the entire assembly.

8. PRIMER COVERAGE RATES

The following is a guide to determining material usage:

TREMprime QD Low Odor. Coverage rate will vary from 200 to 400 ft²/gal (4.9 to 9.8 M²/L). The coverage rates will vary due to finish and porosity of the concrete.

TREMprime WB. Coverage rate will vary from 150 to 300 ft²/gal (3.7 to 7.3 M²/L). The coverage rates will vary due to finish and porosity of the concrete.

9. PROTECTION

9.1 Apply Tremco approved primer using a long-map, solvent-resistant roller, brush or airless apray to concrete surface to be waterproofed. Airless spray should be at least 11:1 ratio pump. Do not apply TREMprime QD Low Odor over any existing detail work.

9.2 Allow Tremco approved primer to dry before applying TREMproof 6100 membrane.

9.3 Apply the first coat of TREMproof 6100 at a minimum thickness of 90 to 125 mils to the specified substrate, including all previous detail coats. The most popular method of application is with a flat HRA squeegee. DO NOT USE NOTCHED SQUEEGEES.

9.4 Immediately install reinforcing fabric with a slight overlap of adjacent sheets into the first coat of TREMproof 6100 while in liquid state. This is done to prevent any gap between the fabric.

9.5 Apply second coat of TREMproof 6100 over the reinforcing fabric at a minimum of 90 to 125 mils. Total thickness will equal the documented specification. Nominal thickness will be 215 mils. Immediately install Tremco's specified protection system. Contact your local Tremco representative for guidance.

9.6 If a Flood Test is specified, it is preferred to perform the flood test on the membrane only. The membrane should be cured to a firm set rubber (24 hr minimum) before flooding. Flood with a minimum of 1" (2.5 cm) of water for 24 hr. Electronic Field Vector Mapping (ASTM D7877) is an acceptable alternative to a Flood Test.

9.7 A Tremco approved protection system and/or approved TREMDrain Drainage Mat shall be installed. This will provide protection prior to the installation of the wearing course.

9.8 The hot rubberized asphalt waterproofing system should connect with adjacent waterproofing systems and the air barrier system as applicable. When the same system or compatible materials are used, they may overlap. When connecting to the air barrier system, make sure the materials are compatible prior to installation. Contact your local Tremco Sales Representative or Technical Services.

10. TREMPROOF 610 PRODUCT YIELD

90 mils = 0.621 lb/ft² (3.03 kg/M²)
125 mils = 0.8625 lb/ft² (4.21 kg/M²)
200 mils = 1.38 lb/ft² (6.74 kg/M²)
215 mils = 1.48 lb/ft² (7.23 kg/M²)

Total system weight average = 1.40 lb/ft² (6.83 kg/M²) with fabric reinforcement.

Total system weight average including overlaps and minor imperfections = 1.50 lb/ft² (7.32 kg/M²).

11. MEMBRANE MAINTENANCE AND REPAIR

11.1 Depending on the type of installation on your facility, there may be a certain amount of maintenance, which you should perform to protect your waterproofing system. Contact your local Tremco Sales Representative for repair and restoration recommendations.

11.2 In the majority of waterproofing assemblies, the Tremco membrane and flashings shall remain completely covered and protected; however, there are a few items that should be addressed periodically

11.3 The surface of the membrane should be covered and protected at all times. Inspections of the wearing surface applied over the membrane should be made several times each year. Pavers and or stone ballast systems should be left in place at all times so protection course over the membrane system remains completely covered. Exposed membrane and/or protection course may deteriorate due to UV exposure from the sun.

11.4 Examine drains several times each year. Make sure the plumbing and drain openings are not restricted by debris. For stone ballasted surfaces, keep larger stones around the drain bonnet.

11.5 Metal counterflashing's divert water over the membrane base flashings. They must be checked periodically and maintained to ensure that they remain in place and prevent water from by-passing the base flashing. Water that gets behind the base flashing may not only find entry into the building but may also seriously affect the performance of the flashing itself.

11.6 While most, if not all, of the membrane base flashings will be covered in a typical assembly, there may be instances where flashing is exposed. Any exposed flashing should be checked twice each year for any damage. Minor scrapes or punctures, including corrosion, should be addressed to prevent further damage.

11.7 If a new penetration must be made through the membrane or flashings, or if there is to be an addition to the existing building, contact Tremco Technical Services for prior approval of appropriate tie-in details. The tie-in must be done in accordance with all Tremco specifications to continue to meet the conditions of the warranty.

11.8 Contact your local Tremco Sales Representative or Tremco Technical Service prior to starting repair work to confirm compatibility.

11.9 Generally, architectural pavers will require no maintenance. The application of sealers or other surface treatments to protect the surface of pavers shall be made per the recommendations of the paving system manufacturer. Contact the paver supplier for specific Information on maintaining the pavers.

TP6100AI/0323