



APPLICATION INSTRUCTIONS

PARASEAL® MEMBRANES BLINDSIDE WALL

1. PURPOSE

- 1.1 The purpose of this document is to establish uniform procedures for installing Paraseal membranes on blindside walls.
- 1.2 The techniques involved by require modifications to adjust to job site conditions. Tremco recognizes that site specific conditions, weather patterns, contactor 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 Service be contact for assistance as required.

2. SCOPE

- 2.1 This document will provide the necessary instructions for the application of Paraseal Membranes to qualify for the manufacturer's warranty.

3. POSSIBLE SYSTEM COMPONENTS

- 3.1 Recommended materials and their use are as follows. For more information on the following materials, please contact your local Tremco Sales Representative or visit our website for product specific data sheet and application instructions at www.tremcosealants.com.
 - Paraseal LG is a sheet waterproofing membrane consisting of 20 mils of HDPE, expandable granular bentonite, and a protective layer of spun-bonded polyester. The bentonite is laminated to the HDPE, creating a dual waterproofing system.
 - Paraseal GM is a sheet waterproofing and methane-mitigating membrane consisting of 20 mils of HDPE and expandable granular bentonite. The HDPE extends beyond the bentonite on the perimeter edges to create a clean surface for Para JT™ Tape and Parastick 'n' Dry® Installation.
 - Paraseal GM/LG-20 mil is a sheet waterproofing and methane-mitigating membrane consisting of 20 mils of HDPE, expandable granular bentonite, and a protective layer of spun-bonded polyester. The bentonite is laminated to the HDPE, creating a dual waterproofing system. The HDPE extends beyond the bentonite on the perimeter edges to create a clean surface for Para JT Tape and Parastick 'n' Dry installation.
- 3.2 Other accessories:
 - Dymonic® 100 Sealant
 - Para JT™ Tape
 - Paragranular™
 - Paramastic™
 - Paraprimer®
 - Parastick 'n' Dry®
 - Paraterm Bar™
 - Permanent Seam Tape™
 - Superstop
 - TREMDrain® Series Drainage Mat
 - TREMproof® 250GC-T

4. LIMITATIONS

- 4.1 Paraseal products require a minimum of 24 psf of compaction/confinement
- 4.2 Paraseal products are not to be installed over ponding or standing water or snow.
- 4.3 Contact Tremco whenever conditions of acid, alkali, salt brine, or gas vapor exist. If ground water is brackish, please contact your local Tremco Sales Representative four week prior to a pending application and provide a water or soil sample for testing purposes in order to determine the correct bentonite formula for your project's application.
- 4.4 If backfill contains substantial amounts of either lava rock, basalt or any other coarse or highly abrasive materials, a protection course or drainage mat may be required. Contact your local Tremco Sales Representative or Technical Services at 866-209-2404 for details.

4.5 If submerged conditions exist, please contact your local Tremco Sales Representative.

5. STORAGE

- 5.1 Protect from moisture.
 - 5.2 Store on a skid or pallet and cover with polyethylene or tarp.
 - 5.3 Do not double stack pallets.
 - 5.4 Prevent hydration of bentonite until the sheet is installed and under recommended compaction.
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6. SUBSTRATE PREPARATION

6.1 WOOD LAGGING WITH STEEL PILES

6.1.1 Be sure all lagging board nails are pounded flush or removed. Check for missing or damaged lagging boards and repair using concrete grout, treated wood, or both. Fill or cover any gaps between lagging board exceeding 1" (2.5 cm) using concrete grout or treated plywood.

6.1.2 If top of steel I-beams are to be removed, either pre-burn the front face and half-way through the webbing or cover the front face with a cement board to prevent damage to the installed membrane.

6.2 AUGERED CAISSON

6.2.1 When the surface of the individual augured piers, which make up the caisson wall, are relatively smooth, Paraseal LG may be installed directly against piers. However, the "crotch" between each pier must first be filled in with a concrete grout and all sharp projections must be removed from the caisson wall.

6.2.2 When the surfaces of the augured piers are very rough and irregular, continuous minimum 3/4" (19 mm) or thicker, as determined by engineer, pressure-treated plywood must be anchored every 12" (30 cm) O.C. to the caisson wall. The void created behind the plywood shall be filled with sand or aggregate. The proper plywood thickness and anchor spacing shall be determined by a civil, structural or soil engineer at the site and depend on the height of the caisson wall, the span of the plywood between piers, and the resultant lateral pressure exerted by the sand/aggregate fill.

6.3 STEEL SHEET PILING

6.3.1 When the waterproofing is going to be in continuous contact with the profile of steel piling, all sharp protrusions must be removed.

6.3.2 When the waterproofing installation is going to span the sheet piling voids, sheets of a minimum 3/4" (19 mm) or thicker as determined by engineer, pressure-treated plywood should first be installed across the void and shot into place every 12" (30 cm) O.C. The Void behind the plywood should be filled with sand and/or aggregate. The proper plywood thickness and anchor spacing shall be determined by a civil, structural, or soil engineer at the site and depends on the height of the piling, the span on the plywood, and the resultant lateral pressure exerted by the sand fill.

6.4 SHOTCRETE WITH CONCRETE PILES

6.4.1 Prior to the installation of Paraseal LG against the shotcrete wall, remove all sharp protrusions and fill all voids which exceed 2" (5 cm) wide by 1" (2.5 cm) deep with concrete grout. Fill smaller voids with Paramastic, TREMproof 250GC-T or concrete grout.

6.5 SLURRY WALL

6.5.1 Prior to the installation of Paraseal LG against the exposed slurry wall, clean off all mud and dirt.

6.5.2 Remove all sharp protrusions and fill all voids which exceed 2" (5 cm) wide by 1" (2.5 cm) deep with concrete grout. Smaller voids shall be filled with Paramastic, TREMproof 250 GC-T, or concrete grout.

6.6 If submerged conditions exist, refer to Paraseal Membranes Applications for Blindside Walls in Submerged Conditions and contact Tremco.

7. DETAIL WORK

7.1 All penetrations shall be secured prior to detailing. For single pipe penetrations, refer to Tremco standard details. Multiple penetrations shall be spaced a minimum of 6" (15 cm) apart to allow for proper detailing. If 6" (15 cm) spacing is not available, contact Tremco for a job-specific recommendation. If sealed or cored pipes are present, contact Tremco.

7.2 Expansion joints should be treated in accordance with Tremco Standard detail BSW-17-LG20.

7.3 Following good concrete industry practices, a waterstop should be used at all construction cold joints. Install Superstop a minimum of 2" (5 cm) from face of wall. It is recommended to apply Paraprimer to clean surface prior to adhering Superstop on vertical surfaces. Primer is recommended to horizontal surfaces. Remove release paper to expose adhesive. Butt ends together and fasten with nails and 1" (2.5 cm) washer every 12" (30 cm) O.C.

7.4 If nails are pounded flush in the lagging boards, install a protective layer of TREMDrain over the I-Beam.

8. MEMBRANE APPLICATION

8.1 If drainage mat is required, install the proper TREMDrain drainage mat. Contact your Tremco Sales Representative or Technical Services for assistance.

8.2 Paraseal LG shall be installed with the bentonite side facing the installer. Paraseal LG may be installed with the long seams running either vertically or horizontally with equal performance.

8.3

8.4 All seams are lapped a minimum of 4" (10 cm). Fasten all seams using a nail and 1" (2.5 cm) washer every 24" (60 cm) O.C. and staple every 3" (7.6 cm) O.C. Use a staple hammer on wood lagging and a box stapler on all other earth retaining systems. For shotcrete walls, all horizontal seams should be lapped with the open edge aiming upward. Vertical seams should not occur at either inside or outside vertical corners.

8.5 When the placement of either footings or a mat slab is scheduled prior to waterproofing installation, a horizontal starter strip of Paraseal LG should be installed first. Refer to the detail drawings on the Tremco website at www.tremcosealants.com.

8.6 When there is below-floor and/or below-footing waterproofing, the tie-in detail between wall and floor waterproofing varies depending on the floor waterproofing system. Contact Tremco for recommendations.

8.7 Temporarily terminate Paraseal LG at the top of the earth retaining system by folding it over and tacking it in place.

8.8 WALL PLACEMENT

8.7.1 Prior to wall placement repair any Paraseal LG which has been damaged.

8.7.2 Detail all rebar support anchors. Contact Tremco for specific instructions.

8.7.3 If the structural wall is poured-in-place, the concrete should not be dropped from higher than 4' (1.2 M), and the concrete should be forced towards the form work and not the membrane. If the structural wall is shotcrete, the spray should be blown in at an upward direction in 4' (1.2 M) lifts so as not to lodge between the seam laps.

8.7.4 Paraseal LG and Paraseal GM/LG-20 mil require 24 psf of compression/compaction.

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Tremco Construction Products Group (CPG) brings together Tremco CPG Inc. and its Dryvit and Nudura brands; Willseal; Prebuck LLC; Tremco Barrier Solutions, Inc.; Weatherproofing Technologies, Inc. and its Pure Air Control Services and Canam Building Envelope Specialists offerings; and Weatherproofing Technologies Canada, Inc.



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