

Standard specification for the installation of Tremco PARASEAL

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Standard Specification: P5400

1.0 PREAMBLE:

This specification deals with the requirements for the application of the **Tremco Paraseal** dual water proofing membrane. **Tremco Paraseal** combines the strength and puncture resistance of high density polyethylene (HDPE) with the expanding capabilities of Bentonite clay to form the most unique dual waterproofing system available today.

Tremco Paraseal systems can be installed prior to concrete pours, over the top or dusty concrete without the use of a primer and can be installed prior to a 28 day cure. **Tremco Paraseal** is an extremely versatile membrane and has been used on various complicated construction sites. One of its principal advantages is speed of application. This has real cost savings in time for the main contractor.

This application is going to call for the use of **Tremco Saltwater Paraseal**. A specially modified form of Paraseal for use in contaminated sites.

Installation shall be carried in conjunction with the Equus Paraseal details manual for below grade section c installation and blindside walls section b installation.

2.0 EXECUTION:

2.1 Inspection

- .1 General: Examine surfaces specified to receive waterproofing to ensure they are in condition acceptable to manufacturer's requirements. Do not proceed with installation until voids greater than 9 mm are filled with grout or Paramastic and sharp protrusions are removed.
- .2 Do not install membranes in standing water.
- .3 Ensure that surfaces to receive tape products are free of dust, dirt, snow, ice, form release oils and other contaminants.

2.2 Preparation

- .1 Layout: Lay out project to determine and anticipate conditions prior to start of work. Note termination and penetration conditions to determine methods for creating a waterproof envelope.
- .2 Covers: Form coves, 50 mm, with granular bentonite at intersections of walls and footings. Form coves with mastic at vertical inside corners, under ledges and at penetrations.
- .3 Priming: Prime surfaces immediately prior to application of tapes and adhesive waterstops with primer specified in Part 2 above. Prime surfaces, including at concrete, masonry, metal and wood, to properly prepare areas to receive waterstops or taped applications and terminations.



2.3 Installation

- .1 Co-ordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- .2 Install the H.D.P.E./Bentonite composite membrane waterproofing where shown on the drawings and in accordance with the Manufacturer's recommendations as approved by the Architect.

NOTE: Pick project requirements from the following types of installations.

- A. BELOW SLAB-ON-GRADE
- B. VERTICAL BACKFILLED WALLS – block, poured
- C. LAGGING WALLS – wood and soldier pile, sheet pile, other blindside
- D. DECKS – underground roof, plaza, planters and between slab surfaces.

A. BELOW SLAB-ON-GRADE (with or without mud slab)

NOTE: Paraseal may be installed under a floor with the bentonite side up or down depending on the weather and job site conditions.

Bentonite side up

1. Ensure that substrate is level and compact. Substrate may consist of native soils, sand, gravel or crushed stone 18 mm and smaller in diameter. Contact Equus Industries if material is larger than 18 mm or otherwise questionable.
2. Place membrane over prepared surfaces in such a manner as to assure minimum handling. Fit closely and seal around inlets, outlets and other projections. Follow installation procedures as recommended by membrane manufacturer.
3. Install **Tremco Paraseal** H.D.P.E. side down with edges overlapped a minimum of 75 mm. Staple joints every 200 mm o.c. Install only as much membrane as can be covered in one (1) day.
4. Protect **Tremco Paraseal** from damage caused by chairs with sharp edges by using plywood base or broad-based chairs.
5. Pour granular bentonite, adhere Stick 'n' Dry or trowel **Tremco Paramastic** around all penetrations and place "cut to fit" collar of **Tremco Paraseal**, as described in Mfg. Installation Manuals.
6. Extend the **Tremco Paraseal** 300 mm up or beyond the perimeter slab form. This excess material will be used to tie into at a later date.
7. Inspect and repair damaged material before placing concrete.
8. Protect exposed bentonite from moisture with temporary plastic sheets.

Bentonite side down

1. Install 6-mil poly sheets lapped 125 mm over compact and level substrate. When substrate consists of larger than 18 mm stone, contact Mfg.



2. Place membrane over prepared surfaces in such a manner as to assure minimum handling. Fit closely and seal around inlets, outlets and other projections. Follow installation procedures as recommended by Mfg.
3. Install membrane, with bentonite side down over poly, with edges lapped a minimum of 75 mm. Staple seams at 600 mm o.c., tape with Permanent Seam Tape (Hand roll for good adhesion). There will be a second layer of **Tremco Paraseal** (bentonite side up) placed under the field sheet continuous at the perimeter. This strip will allow for the proper tie-in to the vertical wall membrane.
4. Protect **Tremco Paraseal** from damaged caused by chairs with sharp edges by using plywood base or broad-based chairs for the rebar.
5. Pour granular bentonite, adhere Stick 'n' Dry or trowel Paramastic around all penetrations and place "cut to fit" collar of Paraseal, as described in Mfg. Installation Manuals.
6. Extend the second (lower) layer of Paraseal (min 300 mm) up or beyond the perimeter slab form. This excess material will be used to tie in at a later date.
7. Inspect and repair damaged material before placing concrete.

B. VERTICAL BACKFILLED WALL - Waterproofing

1. Inspection – Confirm that all areas to receive waterproofing are properly prepared (Para 3.1) according to current manufacturer's literature.
2. Form 50 mm cove with granular bentonite at vertical wall / horizontal intersections and 25 mm coves with bentonite mastic at vertical inside corners, under ledges and at penetrations.
3. Place membrane over prepared surfaces where shown on the drawings, and in strict accordance with the manufacturer's recommendations as approved by the Architect **Tremco Paraseal** 24' by 4' roll may be installed vertically or horizontally with the H.D.P.E. (black) side facing installer as shown in application manuals.
4.
 - A. Installation in vertical manner (preferred by most applicators) – Nail **Tremco Paraseal** across top – one nail per every 30 cm o.c. and allow sheet to hang down, across bentonite cant and approx. 150 mm onto footing. Install second sheet overlapping first sheet min. 35 mm. Nail through both sheets at overlap area 60 cm o.c. followed by installation of Temporary Tape or Permanent Seam Tape, centred over all cleaned seams, as required for each project. Contact Mfg. For taping requirements.
 - B. Installation in horizontal manner – Use at least three (3) workers. Start **Tremco Paraseal** at lowest portion of wall. Roll Paraseal out, nailing every

60 cm o.c., allowing sheet to run across bentonite cant and approx. 150 mm onto the footing. Overlap subsequent sheets single fashion, a min. of 35 mm and repeat nailing sequence top and bottom. Apply Temporary Tape or Permanent Seam Tape to all cleaned seams, as required for each project. Contact Mfg. for taping requirements.



5. Properly treat all penetrations by cutting field membrane to fit snugly at penetrations. Form cove around penetration with specified mastic. Furnish and install site fabricated collar, made from Paraseal membrane being used on site, to fit tightly around penetration and press firmly to embed fully in mastic. Fasten collar and tape in place.
6. Terminate at top (grade) using one nail every 200 mm with Paraterm bar. May also terminate with Termination Tape. Follow Mfg. installation instructions which include Paraprimer. NOTE: Make certain membrane extends to grade and that above grade exposed wall is waterproofed (by others).

C. LAGGING WALLS - Wood or metal

1. If water is present, cover lagging with sheet of 6 mil polyethylene.
2. Fill all spaces between lagging which are over 25 mm in width or install 40 mil Paraseal. Contact Equus Industries for more information.
3. Using case-hardened nails with washer, install **Tremco Paraseal LG** lowest level first and lap min. 75 mm shingle fashion or hang sheets vertically. Nail through both sheets at 75 mm overlap area every 60 cm o.c. and staple between nails at 75 mm o.c. Protect from excessive rain.
4. Waterproof all penetrations using the manufacturer's current methods which utilise Paramastic, Paraseal collars and Stick 'n' Dry.
5. Prior to erection of the interior formwork or concrete placement, inspect and repair any areas damaged during installation of the re-enforcing iron.
6. Shotcrete or guniting – Paraseal and Paraseal LG may be applied to or shot against. However, each project has individual requirements. Please contact Equus Industries for current specifications.

D. DECKS – Underground roof, plaza, planters and between-slab surfaces.

NOTE: Use Permanent Seam Tape over all seams if earth or concrete cover is less than 28 psf. Contact Equus Industries for more details.

1. Place membrane over prepared surfaces in such a manner as to assure minimum handling. Fit closely and seal around inlets, outlets and other projections. Follow installation procedures as recommended by membrane manufacturer.
2. Install membrane with bentonite side down, typically facing deck, in shingle fashion, lapping seams min. 35 mm. Start installation at lowest point. Staple all seams at 600 mm o.c. followed by application of Permanent Seam Tape or Temporary Tape as specified for each individual project. Roll press tape firmly into place on clean H.D.P.E.
3. Treat penetrations by installing membrane tightly around penetration. Liberally apply mastic or granular bentonite around pipe. Install site-fabricated collar tightly around pipe and tape in place.
4. Form 25 mm granular bentonite cove at all horizontal / vertical transitions. Fold and cut membrane per Mfg. Deck application manual or use pre-moulded corners.
5. Terminate Paraseal on vertical wall using termination bar or Termination Tape closely following installation methods.
6. Turn all sharp edges of re-enforcing mesh upward to prevent damage to membrane.
7. Carefully place earth or concrete cover per the contract documents.



3.0 Warranty:

The **Tremco Paraseal** waterproofing membrane as detailed in this specification may be warranted as to waterproof integrity and to be waterproof for a period of up to ten (10) years for horizontal slab application:

Such a warranty is issued on condition that:

1. All work is carried out by an approved Equus Applicator.
2. All work is carried out in accordance with this specification, or any amendments or additions thereto made by the Manufacturer or his representative.

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