



INSTALLATION GUIDELINES

CLAY-TITE - BLINDSIDE APPLICATION

This document has been created as an addendum to our CLAY-TITE technical data sheet to provide information regarding the application of CLAY-TITE Bentonite Waterproofing Membrane when installed up against a soil retention system in a blindside application. Following are the typical installation instructions recommended by W. R. MEADOWS. It is important to review each application as there may be situations that may require this procedure to be modified based on the project requirements. If this situation arises, please contact W. R. MEADOWS' Technical Service.

PRODUCTS REQUIRED

- CLAY-TITE Waterproofing Membrane: dual layer waterproofing membrane consisting of virgin HDPE (20 mil), sodium bentonite, and a protective layer consisting of a non-woven polypropylene
- CLAY-TITE MASTIC: to be used in situations below the water table or when temperatures are going to be below 40°F (4°C)
- CLAY-TITE ADHESIVE: water based acrylic adhesive for seams/waterstop to be used when above the water table and temperatures are above 40°F (4°C)
- WATERSTOP EC: regular version waterstop containing bentonite
- WATERSTOP EC PLUS: combination of hydrophilic rubber and bentonite for use in applications below the water table
- CLAY-TITE GRANULAR PACK: 30 pound bags of bentonite for coves, and other detailing
- MEL-DRAIN DRAINAGE BOARD
- TERMINATION BAR

LIMITATIONS

- CLAY-TITE products are required to be installed in situations where a minimum compaction/confinement of 24 psf can be achieved.
- Do not install CLAY-TITE products over areas where standing water, snow, or ice is present.
- For areas in which the ground water has a high sodium level (sea water or brackish water), contact W. R. MEADOWS' Technical Services prior to installation. CLAY-TITE HSR from W. R. MEADOWS can be used in this installation. A water test may be needed to determine the suitability of the membrane for use in specific ground conditions.

STORAGE

- Protect from moisture.
- Store on a skid or pallet and cover with polyethylene or tarp.
- Do not double stack pallets.
- Prevent hydration of bentonite until the membrane is installed and under recommended compaction.

SUBSTRATE PREPARATION

WOOD LAGGING WITH STEEL PILES

1. Be sure all lagging board nails are pounded flush or removed.
2. Remove all sharp protrusions, mud, debris, ice, or any other materials that will affect the membrane's performance.
3. Fill or cover any irregularities and voids between lagging board exceeding 1" (25 mm) using CLAY-TITE MASTIC, concrete grout, patching mortar, or treated plywood.
4. Cover lagging boards and soldier piles vertically with MEL-DRAIN drainage board installed according to written installation instructions.



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CAISSONS

1. If the augered caissons are smooth, CLAY-TITE can be installed directly onto the caissons. Any sharp protrusions need to be removed. For the depressed areas between each pile, this area must be filled with a concrete grout prior to CLAY-TITE installation.
2. If the augered caissons are rough and irregular, a minimum $\frac{3}{4}$ " pressure treated plywood must be installed. The void behind the plywood at the depressed areas shall be filled with sand, aggregate, or grout to provide a solid substrate for CLAY-TITE installation. Plywood selection and installation shall be determined by the project engineer.

SHEET PILING

1. In areas where CLAY-TITE is to be in direct contact with the steel piling, all sharp protrusions need to be removed.
2. In areas where the CLAY-TITE is to span the sheet piling, a minimum $\frac{3}{4}$ " pressure treated plywood must be installed. The void behind the plywood at the depressed areas shall be filled with sand, aggregate, or grout to provide a solid substrate for CLAY-TITE installation. Plywood selection and installation shall be determined by the project engineer.

SHOTCRETE

1. Remove all sharp protrusions, mud, debris, ice, or any other materials that will affect the membrane's performance.
2. Fill or cover any voids or irregularities exceeding 2" (50 mm) using a concrete grout or patching mortar.

SLURRY WALL

1. Remove all sharp protrusions, mud, debris, ice, or any other materials that will affect the membrane's performance.

2. Fill or cover any voids or irregularities exceeding 2" (50 mm) using a concrete grout or patching mortar.

DETAILING

PENETRATIONS

1. Fill voids with concrete grout, or CLAY-TITE MASTIC and trowel around penetration ensuring all areas are completely filled.
2. Cut CLAY-TITE strips 6" wide to wrap the pipe and cut flanges across this strip to aid in wrapping the strip around the penetration and fasten into place.
3. Install WATERSTOP EC or WATERSTOP EC PLUS (below water table) around penetration and press into installed CLAY-TITE membrane.

TIE-BACKS/SOIL NAILS

1. It is recommended to fully box out around the tie-back or soil nail to ensure continuity of the waterproofing in these areas. In the instance that this is not able to be accomplished, then the area needs to be addressed using the following procedure.
2. Fill voids with concrete grout, or CLAY-TITE MASTIC.
3. Fully cover the tie-back or soil nail with CLAY-TITE MASTIC, and then completely cover this area with CLAY-TITE.
4. Install WATERSTOP EC or WATERSTOP EC PLUS (below water table) around this area and press into installed CLAY-TITE membrane.

CONSTRUCTION JOINTS

1. Install WATERSTOP EC a minimum of 2" (5 cm) from face of wall.
2. Prior to installation, apply CLAY-TITE MASTIC in all areas to receive WATERSTOP EC or WATERSTOP EC PLUS (below water table).





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3. Remove release paper to expose adhesive on WATERSTOP EC.
4. Fasten with nails and washers every 12" O.C.
5. For subsequent applications of WATERSTOP EC, butt ends of waterstop together to ensure continuity.

MEMBRANE INSTALLATION

1. If required, install MEL-DRAIN 5035 drainage board according to installation instructions prior to CLAY-TITE installation.
 2. CLAY-TITE can be installed vertically or horizontally with the bentonite side towards the concrete pour, and the HDPE side towards the drainage board or soil retention system.
 3. Mechanically affix the CLAY-TITE across the top every 20" (0.50 m) O.C.
 4. Lap all seams a minimum of 4" (101.6 mm). If CLAY-TITE is installed in the horizontal direction, ensure that seams are shingled in a manner to shed water.
 5. Ensure seams do not occur at inside and outside corners and have them a minimum of 12" from these areas.
 6. All seams should be nailed every 24" (0.6 m) O.C. with a nail and washer and then stapled in between the nails every 6" O.C.
 7. Apply CLAY-TITE MASTIC over all fasteners.
 8. Terminate CLAY-TITE at top of soil retention system by folding over and tacking into place.
2. Do not drop concrete from a height greater than 4' (1.2 m) and pour against the form rather than the membrane so as not to drag the membrane down the surface.
 3. For shotcrete installations, build the wall up in 4' (1.2 m) lifts and ensure the shotcrete is not sprayed into the seams.
 4. All concrete needs to be compressed or compacted a minimum of 24 psf.

CONCRETE PLACEMENT

1. Prior to concrete pour, repair any damaged areas of CLAY-TITE and confirm all detailing has been completed to ensure continuity.



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