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Neuchâtel Tanking | Precon



TECHNICAL
DATA SHEET

SEPTEMBER 2023

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BRANZ Appraised
Appraisal No. 1076 [2020]

TECHNICAL DATA SHEET
NEUCHÂTEL PRECON TANKING

Pre-Applied/Underslab Waterproofing Membrane

DESCRIPTION

PRECON is a composite sheet membrane comprised of a non-woven fabric, elastomeric membrane, and W.R. MEADOWS' exclusive, patented PLASMATIC CORE (U.S. Patent No. 7,179,761). The PLASMATIC CORE is a seven-layer matrix designed for toughness and provides the lowest water vapor transmission (WT) rating on the market. Once concrete is poured against PRECON and the concrete cures, a mechanical bond forms that secures the concrete to the membrane.

USES

PRECON is used as a blindside membrane in vertical applications where access to the positive side is limited. The membrane can also be used for horizontal applications for underslab waterproofing and vaporproofing.

FEATURES/BENEFITS

- ✓ Provides a waterproof seal between the membrane and poured concrete wall.
- ✓ Helps prevent moisture migration into the structure.
- ✓ Reduces methane and radon gas intrusion.

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PACKAGING

4' (1.2 m) wide x 50' (15.2 m) long rolls, one roll per carton.

STORAGE AND HANDLING

Store membrane cartons on pallets and cover if left outside. Keep materials away from sparks and flames.

SPECIFICATIONS

- LARR Report 26023

APPLICATION

Surface Preparation

Inspect all surfaces for any conditions detrimental to the proper completion of the work. Surfaces should be structurally sound. Remove debris or any other foreign material that could damage the membrane.

PRECON can be used with a caisson wall shoring system without the use of a drainage board, such as MEL-DRAIN™ from W. R. MEADOWS. W. R. MEADOWS recommends proper site drainage, but due to certain site conditions this sometimes cannot be done effectively. The decision to remove the drainage board should be at the discretion of the engineer. In situations where a drainage board is not applied, surface preparation is important. The substrate needs to be sound, solid, and smooth. Any gaps or voids > 1" (25 mm) need to be grouted. When PRECON is used with MEL-DRAIN from W. R. MEADOWS, the system can bridge gaps <2" (50.8 mm). However, gaps >2" (50.8 mm) will need to be grouted.

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Application Method

PRECON may be applied at temperatures down to 40° F (5° C); however, in less-than-ideal environments or marginal conditions, consider the use of PRECON LOW TEMP below 60° F (16° C). PRECON LOW TEMP can be used in temperatures down to 25° F (-4° C). MEL-PRIME™ from W. R. MEADOWS should be used to enhance the bond at the selvedge edge when conditions warrant with both PRECON and PRECON LOW TEMP. Prior to application of the blindside membrane, attach MEL-DRAIN™ rolled matrix drainage system from W. R. MEADOWS to lagging or soil retention system.

In vertical applications of PRECON, mechanically attach with fasteners every 12" (304.8 mm) across the top, within ½* (13 mm) of the top edge of the membrane. Install the membrane with the fabric side facing toward the concrete pour.

Remove release paper on 6" (152.4 mm) overlap. Apply membrane and roll press into place with a tile type roller.

If shotcrete is to be applied to the membrane, please reference PRECON SHOTCRETE TECHNICAL BULLETIN available at www.wrmeadows.com.

End Laps

Overlap membrane 6” (152.4 mm). Prior to overlap, apply BEM, HYDRALASTIC 836, or MEL-ROL® LIQUID MEMBRANE (two-component) from W. R. MEADOWS in area to be lapped. Roll press membrane into BEM, HYDRALASTIC 836, or MELROL LIQUID MEMBRANE. At terminations of membrane, apply BEM, HYDRALASTIC 836, or MELROL LIQUID MEMBRANE 12” (304.8 mm) wide centered over the termination and while still wet, embed 12” (31 cm) wide DETAIL FABRIC into the HYDRALASTIC 836 or MEL-ROL LIQUID MEMBRANE and roll press into place.

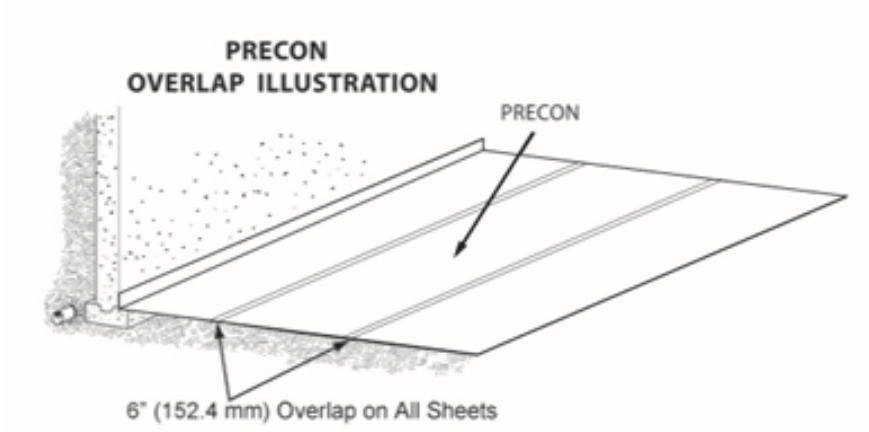
Ensure that DETAIL FABRIC is centered over the termination with 6” (152.4 mm) on each side of lap edge. Apply additional HYDRALASTIC 836 on all terminations of DETAIL FABRIC. Additionally, the use of DETAIL TAPE H and DETAIL TAPE V from W. R. MEADOWS can be used in both horizontal and vertical end laps. View PRECON END LAP TAPING METHOD TECHNICAL BULLETIN available at www.wrmeadows.com for full information.

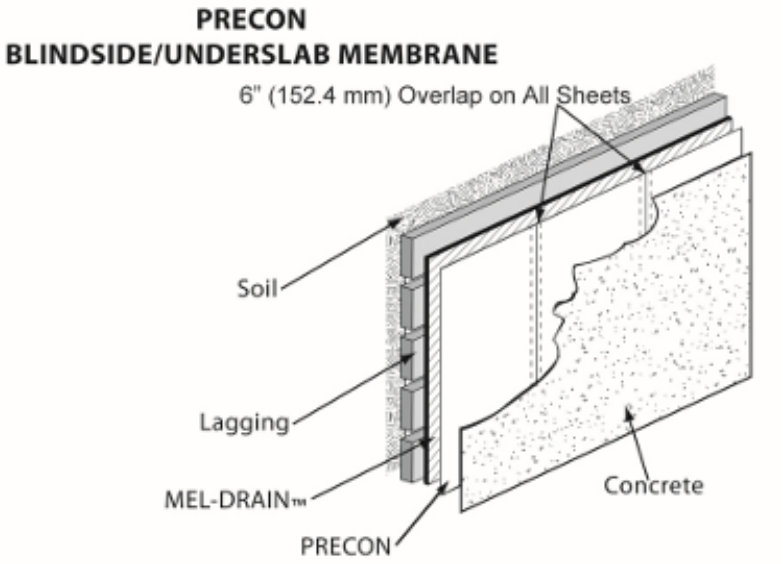
Penetrations and Protrusions

Detail around all horizontal and vertical penetrations using BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE (two-component) from W. R. MEADOWS. Apply BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE by forming a fillet around the pipe or protrusion, overlapping the fabric side of PRECON and the protrusion a minimum of 2.5” (64 mm). If the gap between the protrusion and the membrane is greater than ½” (13 mm), apply DETAIL FABRIC over uncured BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE.

All penetration and protrusion surfaces must be clean, rust-free, and sound prior to application of BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE.

*MEL-ROL LIQUID MEMBRANE is a two-component material, not to be confused with MEL-ROL LM.





For horizontal applications involving a cluster of penetrations, consider the use of HYDRALASTIC 836. Prior to application of HYDRALASTIC 836, prepare the surfaces of the penetrations as above and provide a block out using 2' x 4' (.6 x 1.2 m) lumber or other in order to create a "pitch pan" area to receive HYDRALASTIC 836.

Patching

Prior to pouring, inspect membrane for punctures or damage and repair as necessary with HYDRALASTIC 836 and/or DETAIL FABRIC. (BEM or MELROL LIQUID MEMBRANE may be used in place of HYDRALASTIC 836.) In addition, ensure the membrane is free of standing water and has been cleaned of any deleterious materials that will affect the bond of the concrete to the membrane.

Underslab Application

Refer to ACI 302.1R-04: Chapter 4 – Site Preparation and Placing Environment for sub-grade preparation prior to PRECON placement.

PRECAUTIONS

Concrete should be poured within 60 days of membrane installation. For installations below 40° F (4° C), contact W. R. MEADOWS technical services. When using bar supports, use those with a flat bottom.

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PROPERTY	TEST METHOD	PRECON RESULTS
Thickness	ASTM D1000	73 mil (1.85 mm)
Low Temp Flexibility	ASTM D1970, 180° @ -20° F (-28.9° C)	Pass
Resistance to Hydrostatic Head	ASTM D5385-93	230’ (70 m)
Elongation, Polymeric Membrane	ASTM D412-06	> 400%
Tensile Strength, Film	ASTM D882	9200 psi (63.4 MPa)
Crack Cycling	ASTM C836 @ -15° F (-26° C)	Pass
Puncture Resistance	ASTM E154	> 210 lb. (> 934 N)
Peel Adhesion to Concrete	ASTM D903	10 lb./in (1754 N/m)
Lap Peel Adhesion	ASTM D1876	5.60 PLI
Water Vapor Transmission	ASTM E96B	0.0011 perms (0.0004 grains/ft.2/hr) (0.007 gram/m2/24 hr)
Resistance to Fungi in Soil	GSA-PBS 07115 – 16 Weeks	No Effect
Radon Transmittance (m/s)	k124/02/95	$<3.0 \times 10^{-9}$
Radon Coefficient (m2/s)	k124/02/95	$<5.6 \times 10^{-12}$

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SEPTEMBER 2023