



## DATA SHEET NO. 5118-050

### PRECON® 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 vapour transmission (WVT) 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. Such applications include soldier pile and lagging, metal sheet piling, caissons, shotcrete and stabilized earth retention walls. The membrane can also be used for horizontal applications for underslab waterproofing and vapourproofing. Applications may include structures under continuous or intermittent hydrostatic pressure. In these situations, contact W. R. MEADOWS Technical Services for verification of installation requirements and applicable installation guidelines. Install PRECON in strict accordance with W. R. MEADOWS installation guidelines and details using all accessory products as specified or required.

#### 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.

#### PACKAGING

1.2 m (4') wide x 15.2 m (50') 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.

#### 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. 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 >25 mm (1") need to be grouted. When PRECON is used with MEL-DRAIN, the system can bridge gaps <50.8 mm (2"). However, gaps >50.8 mm (2") will need to be grouted.

**Application Method** ... PRECON may be applied at temperatures down to 5° C; however, in less than ideal environments or marginal conditions, consider the use of PRECON WINTER-GRADE below 16° C. PRECON WINTER-GRADE can be used in temperatures down to -7° C. Please reference PRECON COLD WEATHER APPLICATION TECHNICAL BULLETIN for full installation instructions. Solvent-based 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 WINTER-GRADE. (MEL-PRIME W/B is not recommended for this cold-temperature installation.) Before application of the blindside membrane, attach MEL-DRAIN to the lagging or soil retention system.

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 305 mm (12") across the top, within 13 mm (½") of the top edge of the membrane. Install the membrane with the fabric side facing toward the concrete pour.

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

Continued over ...

**W. R. MEADOWS OF CANADA**  
70 Hannant Court, Milton, ON L9T 5C1  
21 Streambank Ave., Sherwood Park, AB T8H 1N1  
(800) 342-5976  
Montreal Sales: (514) 865-2406

Hampshire, IL / Cartersville, GA / York, PA / Fort Worth, TX  
Benicia, CA / Pomona, CA / Goodyear, AZ / Milton, ON  
Sherwood Park, AB  
[www.wrmeadows.com](http://www.wrmeadows.com)

**End Laps ...** Overlap membrane 152.4 mm (6"). 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 MEL-ROL LIQUID MEMBRANE. At terminations of membrane, apply BEM, HYDRALASTIC 836, or MEL-ROL LIQUID MEMBRANE 305 mm (12") wide centered over the termination and while still wet, embed 305 mm (12") 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 152.4 mm (6") 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](http://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). 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 64 mm (2.5"). If the gap between the protrusion and the membrane is greater than 13 mm (½"), 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 MEL-ROL 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.

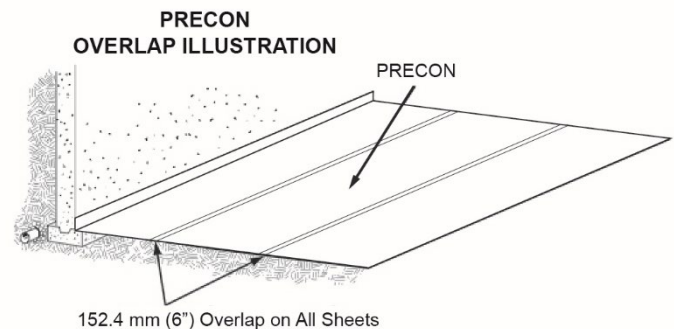
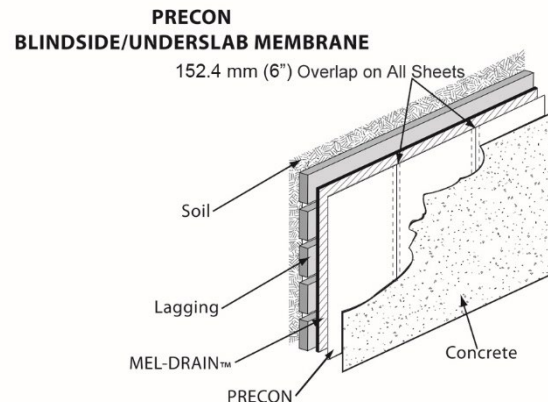
**Underslab Application ...** Refer to ACI 302.1R: Chapter 4 – Site Preparation and Placing Environment for sub-grade preparation prior to PRECON placement.

#### LIMITATIONS/PRECAUTIONS

Concrete should be poured within 60 days of membrane installation. For installations below 4° C, contact W. R. MEADOWS technical services. When using bar supports, use those with a flat bottom. It is the responsibility of the licensed design professional of record to determine suitability of PRECON as the vapor mitigation barrier based on the published VOC permeance data per project and governmental regulations. It is suggested to follow good industry practices to install a passive (convertible to active) venting system or provide active venting above the mitigation barrier. Install PRECON in clean soil to avoid direct contact with liquid contaminants.

#### MASTERFORMAT NUMBER AND TITLE

07 13 00 - Sheet Waterproofing



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**WARRANTY:** W. R. Meadows of Canada warrants that, at the time and place we make shipment, our materials will be of good quality and will conform with our published specifications in force on the date of acceptance of the order. THE FOREGOING WARRANTY SHALL BE EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER WARRANTIES OTHERWISE ARISING BY OPERATION OF LAW, COURSE OF DEALING, CUSTOM OF TRADE OR OTHERWISE. As the exclusive remedy for breach of this Warranty, we will replace defective materials, provided, however, that the buyer examine the materials when received and promptly notify us in writing of any defect before the materials are used or incorporated into a structure. Three (3) months after W. R. Meadows of Canada has shipped the materials, all our Warranty and other duties with respect to the quality of the materials delivered shall conclusively be presumed to have been satisfied, all liability therefore terminates and no action for breach of any such duties may thereafter be commenced. W. R. Meadows of Canada shall in no event be liable for consequential damages. Unless otherwise agreed to in writing, no warranty is made with respect to materials not manufactured by W. R. Meadows of Canada. We cannot warrant or in any way guarantee any particular method of use or application or the performance of materials under any particular condition. Neither this Warranty nor our liability may be extended or amended by our salesmen, distributors or representatives, or by our distributor's representatives, or by any sales information or drawings.

# **TECHNICAL DATA**

Property	Test Method	PRECON Results
Thickness	ASTM D1000	1.85 mm (73 mil)
Low Temp Flexibility	ASTM D1970, 180° @ -28.9° C	Pass
Resistance to Hydrostatic Head	ASTM D5385-93	70 m (230')
Elongation, Polymeric Membrane	ASTM D412-06	>400%
Tensile Strength, Film	ASTM D882	63.4 MPa (9200 psi)
Crack Cycling	ASTM C836 @ -26° C	Pass
Puncture Resistance	ASTM E154	>934 N (>210 lb.)
Peel Adhesion to Concrete	ASTM D903	1754 N/m (10 lb./in)
Lap Peel Adhesion	ASTM D1876	0.97 N/mm (5.60 lbf/in.)
Moisture Vapour Transmission	ASTM E96B	0.006 perms (0.0024 grains/ft. <sup>2</sup> /hr) (0.041 gram/m <sup>2</sup> /24 hr)
Resistance to Fungi in Soil	GSA-PBS 07115 – 16 Weeks	No Effect
Radon Transmittance (m/s)	k124/02/95	<3.0 x 10 <sup>-9</sup>
Radon Coefficient (m2/s)	k124/02/95	<5.6 x 10 <sup>-12</sup>
Gas Diffusion Coefficient (m2/s)	ASTM E96, Procedure B Modified (Solvent only – No Water)	>99% Purity Benzene 1.24 x 10 <sup>-14</sup>
		>99% Purity Toluene 8.24 x 10 <sup>-15</sup>
		>99% Purity Ethylbenzene 1.24 x 10 <sup>-15</sup>
		>99% Purity Trichloroethylene 1.90 x 10 <sup>-14</sup>
		>99% Purity Tetrachloroethylene (PCE/Perc) 3.21 x 10 <sup>-15</sup>
		>99% Purity Xylene 1.53 x 10 <sup>-15</sup>
Methane Gas Transmission Rate, (mL/day·m <sup>2</sup> ·atm) Cond. 24h @ 74±4°F and 50±10%RH; Gas = Methane (99.99% purity); Test @ 74±4°F:	ASTM D1434	43



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**21 Streambank Ave., Sherwood Park, AB T8H 1N1**  
**(800) 342-5976**  
**Montreal Sales: (514) 865-2406**

Hampshire, IL / Cartersville, GA / York, PA / Fort Worth, TX  
Benicia, CA / Pomona, CA / Goodyear, AZ / Milton, ON  
Sherwood Park, AB  
[www.wrmeadows.com](http://www.wrmeadows.com)