SELF-ADHERING SHEET WATERPROOFING

SECTION 07 13 26

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) MasterFormat. The section must be carefully reviewed and edited by the Architect or Engineer to meet the requirements of the project. Coordinate this section with other specification sections and the drawings.

Specifier Notes: W.R. Meadows MEL-ROL® is self-adhering sheet waterproofing system that is a flexible, self-adhering sheet waterproofing membrane system that is available in standard, low temp, and extra low temp versions. It is composed of a nominally 56 mil (1.4 mm) thick layer of polymeric waterproofing membrane on a heavy duty, 4 mil (0.1 mm) thick, polyethylene carrier film. The two components are laminated together under strict quality-controlled production procedures. A convenient overlap guideline is printed 2 ½ inch (63.5 mm) in from the material edge on each side to assure proper overlap coverage and to assist in maintaining uniform alignment. Special exposed polymeric membrane strips are provided on both sides for positive membrane-to-membrane adhesion in the overlap area. The membrane strips are protected by a pull-off release strip. MEL-ROL waterproofing system provides a cost-effective answer to properly waterproof vertical and horizontal foundations, retaining walls, tunnels, plaza decks and split-slabs for parking decks in residential and commercial construction. MEL-ROL is also applicable for insulated concrete forms (ICF). This specification is based on a single-ply application. Consult W. R. Meadows for a 2-ply MEL-ROL guide specification.

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Application of rolled, self-adhering sheet waterproofing membrane system.

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

A. Section 03 30 00 - Cast-in-Place Concrete.

B. Section 07 21 00 – Thermal Insulation.

C. Section 07 60 00 – Flashing and Sheet Metal.

D. Section 07 92 00 – Joint Sealants.

E. Section 33 41 23 – Drainage Layers.

1.03 REFERENCES

A. American Railway Engineering and Maintenance-of-Way Association (AREMA) Specification Chapter 29 - Waterproofing.

B. ASTM D5385 - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.

C. ASTM D146 - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.

D. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

E. ASTM D570 - Standard Test Method for Water Absorption of Plastics.

F. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.

G. ASTM D1876 – Standard Test Method for Peel Resistance of Adhesives. (T-Peel Test).

H. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.

I. ASTM E96 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials.

J. ASTM E154 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

K. National Roofing Contractors Association – Roofing and Waterproofing Manual.

1.04 SUBMITTALS

A. Comply with Section 01 33 00 - Submittal Procedures.

B. Submit manufacturer's product data and application instructions.

1.05 QUALITY ASSURANCE

A. Installer Qualifications:
   1. Use an experienced installer and adequate number of skilled personnel who are thoroughly trained and experienced in the application of self-adhering sheet waterproofing membranes.

B. Obtain waterproofing materials from a single manufacturer regularly engaged in manufacturing the product.

C. Provide products which comply with all state and local regulations controlling use of volatile organic compounds (VOCs).

1.06 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.

B. Store materials in a clean dry area in accordance with manufacturer's instructions.

C. Store adhesives and primers at temperatures of 40 degrees F (5 degrees C) and above to facilitate handling.

D. Store membrane cartons on pallets.

E. Do not store at temperatures above 90 degrees F (32 degrees C) for extended periods.

F. Keep away from sparks and flames.

G. Completely cover when stored outside. Protect from rain.

H. Protect materials during handling and application to prevent damage or contamination.

I. Avoid use of products which contain tars, solvents, pitches, polysulfide polymers, or PVC materials that may come into contact with waterproofing membrane system.

1.07 ENVIRONMENTAL REQUIREMENTS

A. Product not intended for uses subject to abuse or permanent exposure to the elements.

B. Protect rolls from direct sunlight until ready for use.

C. Do not apply standard membrane when air or surface temperatures are below 40 degrees F (4 degrees C).

D. Do not apply to frozen concrete.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. W. R. MEADOWS®, INC., PO Box 338, Hampshire, Illinois 60140-0338. (800) 342-5976. (847) 683-4500. Fax (847) 683-4544. Website: www.wrmeadows.com.

2.02 MATERIALS

A. Rolled, Self-Adhering Sheet Waterproofing Membrane: Polymeric waterproofing membrane protected by release paper on polyethylene carrier film with exposed polymeric membrane strips on both sides protected by pull-off release strips.

   1. Performance Based Specification: Waterproofing membrane shall have the following characteristics:
      a. Compliance: AREMA Specification Chapter 29 - Waterproofing.
      b. Thickness:
         1) Carrier Film: 4 mils.
         2) Polymeric Membrane: 56 mils.
      c. Tensile Strength, ASTM D412, Die C:

1) Carrier Film: 5900 psi (40.71 MPa), minimum.
2) Polymeric Membrane: 460 psi (3.23 MPa), minimum.

d. Elongation, ASTM D412, Die C: Polymeric Membrane: 971 % minimum.
e. Peel Adhesion, ASTM D903: 11.8 lbf/in. (2068 N/m).
f. Lap Adhesion, ASTM D1876: 8.62 lbf/in. (1508 N/m).
g. Water Vapor Permeability, ASTM E96, Method B: 0.036 perms.
h. Water Absorption, ASTM D570: 0.1 percent, 72 hours maximum.
i. Resistance to Hydrostatic Head, ASTM D5385: Equivalent to 230.9 feet (70.3 m) of water.
j. Puncture Resistance, ASTM E154: 48.2 lbf (214.6 N).
k. Exposure to Fungi, Soil Test: Pass, 16 weeks.
l. Color:
1) Carrier Film: White.
2) Polymeric Membrane: Black.

Specifier Notes: Select one of the following MEL-ROL products in Part 2.02.2 based on air and substrate temperatures during time of application.

2. Proprietary Based Specification: MEL-ROL Waterproofing System by W.R. MEADOWS.
a. MEL-ROL: For use at temperatures of 40ºF (4ºC) and above.
b. MEL-ROL LT (Low Temperature): For use at temperatures of 20ºF (-7ºC) to 60ºF (16ºC).
c. MEL-ROL XLT (Extra Low Temperature): For use at temperatures of 0ºF (-18ºC) to 60ºF (16ºC).

2.03 ACCESSORIES

A. Surface Conditioner:
1. MEL-PRIME Solvent-based adhesive.
2. MEL-PRIME W/B water-based adhesive.

B. Flashing and Fillets: MEL-ROL LIQUID MEMBRANE.

C. Termination Sealant: POINTING MASTIC.

D. Termination Bar: TERMINATION BAR.

E. Corner and Detailing Tape: DETAIL STRIP.

F. Waterproofing Protection Course: PC-2 PROTECTION COURSE or PERMINATOR 10-mil or 15-mil.

G. Rolled Matrix Drainage System: MEL-DRAIN Rolled Matrix Drainage System.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces to receive self-adhering membrane. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected. Commencement of the Work shall construe contractor acceptance of conditions.

B. Apply self-adhering sheet waterproofing to cured concrete surfaces a minimum of 3 days after removal of forms.

3.02 SURFACE PREPARATION

A. Protect adjacent surfaces not designated to receive waterproofing.

B. Clean and prepare surfaces to receive waterproofing in accordance with manufacturer's instructions.

C. Do not apply waterproofing to surfaces unacceptable to manufacturer.

D. Concrete surfaces must be clean, smooth and free of standing water.

E. Patch all holes and voids and smooth out any surface misalignments.

F. Apply only enough adhesive to surfaces that will be covered with self-adhering membrane within one working day. Apply adhesive in accordance with manufacturer's recommended coverage rates.

G. Inside and Outside Corners
1. Apply fillet beads of termination sealant at inside corners and allow to cure.
2. Apply a 9-inch (23 cm)-wide strip of self-adhering detailing membrane centered over inside and outside inside corners.

H. Joint Reinforcement
1. For static cracks and cold joints, apply a 9-inch (23 cm)-wide strip of self-adhering detailing membrane centered over the joint.

I. Pipe Penetrations
1. Finger flash pipe penetrations with a minimum 6-inch (15 cm) wide detailing tape by applying 3-inch (7.6 cm) fingers onto surrounding substrate and 3-inches (7.6 cm) of tape onto pipe circumference, with 2-inch (5 cm) minimum overlap. Seal all edges of flashing with termination sealant. Seal all terminations with termination sealant.

J. Seal all terminations and exposed membrane edges with termination sealant.

3.03 APPLICATION

Specifier Notes: When tying into pre-applied sheet ("blindside") waterproofing, overlap a minimum of 6 inches.

A. Primary Membrane Application
1. Apply waterproofing membrane system in accordance with manufacturer's instructions.
2. Remove release backing paper, then position the membrane at the lowest point. Ensure the proper overlap is maintained for all side and end laps.
3. Pull balance of release paper off, then press into place to ensure full contact and elimination of all wrinkles. Roll press entire membrane and seams.
4. Stagger end laps and overlap all seams at least 2 ½ inches (6.35 cm).
5. Terminate top leading edge of membrane with termination bar and termination sealant as required.
6. Seal all terminations and non-factory edges with termination sealant.
7. Inspect membrane before covering and repair as necessary. Cover tears and inadequate overlaps with membrane, extending 6 inches (15 cm) beyond affected areas. Seal all sides of patches and repair areas with termination sealant.

Specifier Notes: When installing vertically, the membrane can be applied in both the horizontal and vertical orientation. It is important that the minimum 2-1/2-inch (6.35 cm) overlap, pre-marked on the membrane carrier sheet, is maintained.

Specifier Notes: When using asphaltic rigid protection course sheets on tall vertical surfaces, temporary supports may be required to allow adhesive to fully cure and bond the sheet to the waterproofing. In lieu of the asphaltic protection course sheets on tall surfaces, alternative protection accessories may be used as outlined in Part 3.04 A. Delete the protection materials that are not used.

3.04 PROTECTION

A. Protect membrane immediately after application with the application of [rigid insulation by others] or [drainage panel] or [asphaltic sheet] [polyolefin sheet].

B. Backfill immediately using care to avoid damaging waterproofing membrane system.

END OF SECTION