

GUIDE SPECIFICATION FOR MEL-DEK™: SELF-ADHERING UNDERLAYMENT FOR ASPHALTIC OVERLAYS

SECTION 07 13 26

SELF-ADHERING SHEET WATERPROOFING

Specifier Notes: This guide specification is written according to the Construction Specifications Institute (CSI) format. 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-DEK is a roll-type waterproofing membrane composed of a nominally 53 mil thick layer of polymeric waterproofing membrane on a shrink-resistant, heavy-duty, 12 mil thick polypropylene woven carrier fabric. The two components are laminated together under strictly controlled production procedures. MEL-DEK waterproofing system provides an excellent waterproofing membrane for bridges, parking decks or other vehicular traffic structures to be overlaid with an asphalt concrete wearing course. MEL-DEK is ideal for repair, maintenance or new construction applications.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of rolled, self-adhering waterproofing membrane system used with asphaltic overlays.

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 [32 12 16] - Hot Mix Concrete Asphalt Paving.
- B. Section 03 30 00 - Cast-in-Place Concrete.

1.03 REFERENCES

- A. American Railway Engineering & Maintenance of Way Association (AREMA) Specification Chapter 29 - Waterproofing.
- B. ASTM D146-97 - Standard Test Methods for Sampling and Testing Bitumen-Saturated Felts and Fabrics Used in Roofing and Waterproofing.
- C. ASTM D1970-01 Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
- D. ASTM D882-02 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
- E. ASTM D1228-64(1976) - Methods of Testing Asphalt Insulating Siding Surfaced with Mineral Granules.

- F. ASTM E96-00e1 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials.
- G. ASTM E154-99 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
- H. ASTM D6153-97(2003) - Standard Specification for Materials for Bridge Deck Waterproofing Membrane Systems.

1.04 SUBMITTALS

- A. Comply with Section 01330 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.

1.05 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° F (5° C) and above to facilitate handling.
- D. Store membrane cartons on pallets.
- E. Do not store at temperatures above 90° F (32 °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.

1.06 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 membrane when air or surface temperatures are below 40° F (4° C).
- D. Do not apply to frozen concrete.
- E. Ensure new concrete surfaces are fully cured.

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. Web Site www.wrmeadows.com.

2.02 MATERIALS

- A. Rolled, Self-Adhering Waterproofing Membrane: Self-adhering roll-type membrane with a nominal 53 mil thick layer of polymeric waterproofing on a shrink-resistant, heavy-duty 12 mil thick, polypropylene woven carrier fabric. Both edges of the membrane to have exposed polymeric membrane protected with a 2" (50 mm) pull-off release strip,

1. Performance Based Specification: Waterproofing membrane shall have the following characteristics:
 - a. Thickness:
 - 1) Carrier Film: 12 mils.
 - 2) Polymeric Membrane: 53 mils.
 - b. Tensile Strength, ASTM D882:
 - 1) Warp: 90 lbs/in. (1.6 kg/mm)
 - 2) Fill: 90 lbs/in. (1.6 kg/mm)
 - c. Elongation, ASTM D882:
 - 1) Polymeric Membrane: 410%
 - 2) Fabric, Warp: 35%
 - 3) Fabric, Fill: 45%
 - d. Flexibility, ASTM D146:
180° Bend, 1/4" (6.35 mm) mandrel @ -26° F (-32° C): Pass
 - e. Water Vapor Permeance, ASTM E96, Method B: 0.03 perms.
 - f. Water Absorption:
 - 1) ASTM D1970: 0.06%
 - 2) ASTM D1228: 0.06%
 - g. Color:
 - 1) Carrier Film: Black
 - 2) Polymeric Membrane: Black
2. Proprietary Based Specification: MEL-DEK Waterproofing System by W. R. MEADOWS.

2.03 ACCESSORIES

- A. Primer:
 1. Temperatures Above 40° F (4° C): MEL-PRIME™ W/B water-based primer.
 2. Temperatures Above 20° F (-7° C): MEL-PRIME VOC Compliant Solvent-Base Primer or Standard Solvent-Base Primer.
- B. Flashing and Fillets: MEL-ROL® LIQUID MEMBRANE
- C. Pointing Mastic: POINTING MASTIC
- D. Joint Tape: DETAIL STRIP

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive membrane. Notify Architect/Engineer if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.
- B. Deck surface must provide proper pitch to gutters and drains.
- C. Drainage openings should be provided at the structural deck level to drain any water that penetrates the asphaltic concrete surface.

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. Ensure existing concrete surfaces have a smooth, sound, monolithic surface, free of voids, spalled areas, sharp protrusions and loose aggregate.
- D. Remove all traces of old membranes, oil, grease or other contaminants.
- E. Concrete surfaces must be clean, smooth and free of standing water.
- F. Patch all holes and voids and smooth out any surface misalignments.

3.03 APPLICATION

- A. Apply waterproofing membrane system in accordance with manufacturer's instructions.
- B. Ensure accessory materials are compatible with membrane and approved by membrane manufacturer.
- C. Apply a reinforcing strip of joint tape over all non-working joints or cracks over 3/16" (4.76 mm) wide before proceeding with membrane application.
- D. Seal all terminations with mastic.
- E. Prime surfaces to be covered in one working day with applicable primer. Reprime uncovered surfaces next day.
- F. Apply membrane from low point to high point in both the longitudinal and transverse directions.
- G. In the transverse direction, overlap in shingle fashion 2 1/2" (63.5 mm) after removing the white polyethylene strip that exposes the 3/4" rubberized asphalt.
- H. Longitudinally, overlap 6" (150 mm) and seal with mastic.
- I. Position membrane and immediately hand rub onto the surface, followed by a pressure-applied roll pressing of the complete surface to assure positive adhesion.
- J. Seal all terminations with mastic.
- K. Inspect membrane before covering and repair as necessary. Cover tears and inadequate overlaps with membrane. Seal edges of patches with pointing mastic.
- L. Perform flood testing of horizontal applications, as required. Mark leaks and repair when membrane dries.

3.04 PAVING

- A. Place minimum 2" (50 mm) thick compacted asphalt concrete overlay as soon as possible after application of membrane.
- B. Ensure the temperature of the asphalt concrete at the time of compaction is a minimum of 290° F (143° C), and not exceeding 340° F (171° C).
- C. Paving equipment should be rubber track variety.
- D. Protect the membrane surface from unnecessary traffic.
- E. Place the overlay from low point to high point with care and caution.

END OF SECTION