

**CSI SECTION 07 14 16 - Cold Fluid-Applied Waterproofing****SYSTEM OVERVIEW**

The Mer-Ko™ ARC Membrane is multi-layer; asphalt modified latex elastomeric membrane that provides a seamless, waterproofing membrane system designed for use on above grade horizontal plywood, concrete or over other approved substrates in preparation for finished tile and masonry overlays.

ARC Membrane system is installed using the following components:

- Polyurethane Caulking (as needed for Concrete Joint Treatment)
- Cementitious Primer (two component)
- Emulsion (for cementitious materials)
- Cold fluid Waterproofing Membrane
- Reinforcing Fabrics (Waterproofing Membrane Reinforcement)
- Cementitious Protective Coat (two component)

**PART 1 - GENERAL****1.1 SECTION INCLUDES**

- A. Installation of multi-layer fabric reinforced, asphalt modified latex elastomeric membrane system designed to create a seamless, waterproofing membrane barrier for use over plywood, concrete or other approved substrates.
  - 1. Related Work: Substrate; Plywood or Concrete
- B. Work not Included:
  - 1. Finishing and corrective work in connection with surfaces to receive the system.
  - 2. Furnishing and installing metal flashings, drains, vents, ducts, curbs, expansion joints or any other through deck penetration.

**1.2 RELATED SECTIONS**

- A. Section 06 16 33 - Plywood Sheathing
- B. Section 03 00 00 - Cast In Place Concrete
- C. Section 03 05 00 - Underlayment
- D. Section 07 62 00 - Sheet Metal Flashing and Trim
- E. Section 07 90 00 - Joint Protection

**1.3 REFERENCE**

- A. ASTM C109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars
- B. ASTM C794 - Standard Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
- C. ASTM D638 - Standard Test Method for Tensile Properties of Plastics

## 1.4 SYSTEM DESCRIPTION

### A. Description of ARC Membrane:

ARC Membrane is a multi-layer fabric reinforced, asphalt modified latex elastomeric membrane system designed to create a seamless, waterproofing membrane barrier for use over plywood, concrete or other approved substrates, consisting of: ARC Membrane Filler, ARC Emulsion, ARC Waterproofing Membrane, 10" Synthetic Burlap, Glassmat Type II (or 40" Synthetic Burlap)

### B. ARC Membrane Functional Criteria:

#### 1. General:

- a. Minimum No. 26 gage bonderized steel or equivalent flashing is installed around the perimeter.
- b. The use of Stainless steel requires scuffing with 100-120 grit sand paper.
- c. Building code conformance: The construction shall be acceptable for use under the building code in force in the jurisdiction of the project.
- d. Concrete control joints should coincide with stress relief concentration points, with a maximum spacing of 20 ft (6.1 m).

#### 2. Performance Requirements

##### a. Physical Characteristics-Fabric Reinforced Membrane

Test	Method	Results
Low Temperature Flexibility (Fabric reinforced membrane)	ASTM C734	Passed
Elongation over Cracks	ASTM CD638	0.22 inches
Freeze Thaw Cycling	250 Cycles	No Changes
Membrane Value		No seepage under water-heads to 115 ft
Tensile Strength	ASTM D638	>450 psi
Water Absorption	ASTM D570	Average 7.9%
Thickness		20 mils (0.51mm) DFT

## 1.5 SUBMITTALS

- A. General: Submit Samples, Evaluation Reports and Certificates in accordance with Division 1 General Requirements Submittal Section.
- B. Samples: Submit samples for approval. Samples shall be of materials specified and of suitable size as required to accurately represent each color and texture used on project. Prepare each sample using same tools and techniques for actual project application. Maintain and make approved samples available at job site.
- C. Manufacturer's Warranty: Submit sample copies of Manufacturer's Warranty indicating Single Source Responsibility.

## 1.6 QUALITY ASSURANCE

### A. Qualifications:

1. Manufacturer: Shall have marketed waterproof pedestrian walking and roof deck systems in the United States for at least ten years and shall have completed projects of same building size and type as this project.
2. Applicator: Shall have attended a Mer-Ko Educational Seminar for installation of system and shall be currently listed and possess a certificate of attendance.

## **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Delivery: Deliver Mer-Ko ARC Membrane products in original packaging with manufacturer's identification.
- B. Storage: Store materials supplied by Mer-Ko in a cool, dry location, out of sunlight, protected from weather and other harmful environment, and at a temperature above 40°F (4°C) and below 100°F (38°C) in accordance with manufacturer's instructions.

## **1.8 PROJECT / SITE CONDITIONS**

- A. Installation Ambient Air Temperature: Minimum of 40°F (4°C) and rising, and remain so for a minimum of 24 hours thereafter.
- B. Substrate Temperature: Do not apply Mer-Ko materials to substrates whose temperature are below 40°F (4°C) or contain frost or ice.
- C. Inclement Weather: Do not apply Mer-Ko materials during inclement weather, unless appropriate protection is employed.
- D. Sunlight Exposure: Avoid, when possible, installation of the Mer-Ko materials in direct sunlight during high temperatures. Application in direct sunlight during hot weather may adversely affect aesthetics.
- E. Mer-Ko materials shall not be applied if ambient temperature exceeds 120°F (49°C) or falls below 40°F (4°C) within 24 hours of application.
- F. Prior to installation, the surface shall be inspected for contamination, or other defects that may adversely affect the performance of the Mer-Ko materials and shall be free of moisture.

## **1.9 COORDINATION AND SCHEDULING:**

- A. Coordination: Coordinate Mer-Ko ARC Membrane installation with other construction operations.

## **1.10 WARRANTY**

- A. Warranty: Upon request, at completion of installation, provide Mer-Ko Limited Warranty. See Mer-Ko Application Guide for Warranty Schedule.

## **PART 2 - PRODUCTS**

### **2.1 MANUFACTURERS**

- A. Manufacturer: ParexLahabra, Inc., 4125 E. LaPalma Ave., Suite 250, Anaheim, CA 92807
- B. Components: Obtain components of Mer-Ko ARC Membrane products from authorized distributors. No substitutions or additions of other materials are permitted without prior written permission from PareXLahabra for this project.

### **2.2 MATERIALS**

- A. Joint Filling
  - 1. Mer-Ko ARC Membrane Filler: Portland cement and sand based material, two component-requiring ARC Emulsion.
  - OR-
  - 1. Mer-Ko PUC 1000 Sealant: One-part, gun-grade, non-sag, non-staining polyurethane sealant, used to fill concrete control joints.
- B. Primer Coat
  - 1. Mer-Ko ARC Membrane Filler - Portland cement and sand based material, two component, requiring ARC Emulsion.
- C. Base Flashing – Reinforced Waterproof Membrane
  - 1. Mer-Ko ARC Waterproofing Membrane: Asphalt modified latex elastomeric reinforced with fabric.
  - 2. Mer-Ko Type III, 10" woven synthetic burlap fabric: Standard vertical to horizontal transition reinforcement.
- D. Horizontal Surface – Reinforced Waterproof Membrane
  - 1. Mer-Ko ARC Waterproofing Membrane: Asphalt modified latex elastomeric reinforced with fabric.
  - 2. Mer-Ko Type II Glassmat Reinforcing Fabric: 36" bonded polyester fibers, standard horizontal waterproofing membrane reinforcement of Mer-Ko ARC Membrane System.
  - OR-
  - 2. Mer-Ko Type III, 40" woven synthetic burlap fabric: Optional horizontal fabric reinforcement.

E. Protective Coat

1. Mer-Ko ARC Membrane Filler - Portland cement and sand based material, two component, requiring ARC Emulsion.

**2.3 RELATED MATERIALS AND ACCESSORIES**

A. Substrate Materials: Substrate shall be installed in accordance with its industry standards and applicable building code.

1. Plywood

- a. Shall be a minimum 5/8 inch thick (16mm) exterior grade, PS 1, exposure one, plywood, complying, and installed in accordance with, 2006 or 2009 International Building Code with all edges blocked.
- b. Face plies must be perpendicular to the supports.
- c. The plywood must be attached to all blocking and end bearings with countersunk wood screws, screw or ring-shank nails equivalent to 8d common nails, spaced 4 inches (102 mm) on center at sheet perimeters and 8 inches (203.2mm) on center in the field, or as otherwise required by the applicable building code, whichever is more restrictive.
- d. Plywood boards are spaced a minimum 1/8 inch.

2. Concrete

- a. Surfaces must be clean, sound and provide a uniform surface free of depressions and ridges.
- b. Prepare concrete surfaces using a power sprayer, grinder or shot blast as required to produce a clean, sound substrate.
- c. All holes must be cleaned and filled with an appropriate Mer-Ko Underlayment. All high spots must be removed by chipping or grinding.
- d. Concrete control joints should coincide with stress relief concentration points, with a maximum spacing of 20 ft (6.1 m).

3. Flashing: Refer to Division 07 Flashing Section for flashing materials.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Verify project site conditions under provisions of Section 01 00 00.
- B. Substrate Examination: Examine prior to System installation as follows:
  1. Substrate shall be free of dust, dirt, laitance, efflorescence, and other harmful contaminants.
  2. Substrate construction in accordance with substrate material manufacturer's specifications and applicable building codes.
- C. Advise Contractor of discrepancies preventing installation of the Mer-Ko ARC Membrane System. Do not proceed with the Mer-Ko ARC Membrane System work until unsatisfactory conditions are corrected.

**3.2 PREPARATION**

- A. Protection: Protect surrounding material surfaces and areas during installation of system.
- B. Clean surfaces thoroughly prior to installation.
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

**3.3 MIXING**

- A. Mix Mer-Ko proprietary products in accordance with manufacturer's instructions.

**3.4 APPLICATION**

- A. General: Installation shall conform to this specification and Parex Mer-Ko written instructions and drawing details.

**3.5 CLEAN-UP**

- A. Removal: Remove and legally dispose of Mer-Ko ARC Membrane component debris material from job site.
- B. Clean Coating surfaces and work area of foreign materials resulting from operations.

### **3.6 PROTECTION**

- A. Provide protection of installed materials from water infiltration into or behind them.
- B. Provide protection of installed deck from dust, dirt, precipitation, and freezing during installation.
- C. Provide protection of installed finish from dust, dirt, precipitation, freezing and continuous high humidity until fully cured and dry.
- D. Clean exposed surfaces using materials and methods recommended by the manufacturer of the material or product being cleaned. Remove and replace work that cannot be cleaned to the satisfaction of the Project Designer/Owner.

#### **END OF SECTION**

Disclaimer This guide specification is intended for use by a qualified designer. The guide specification is not intended to be used verbatim as an actual specification without appropriate modifications for the specific use intended. The guide specification must be integrated into and coordinated with the procedures of each design firm, and the requirements of a specific project.

**NOTES**





# ARC Specifications

## CSI SECTIONS 07 14 16

*Any recommendation or suggestion relating to the use of MER-KO products made via current technical literature, marketing materials, technical application guides, specifications, and the like, or in response to specific inquiry or otherwise, is based on data believed to be reliable. However, the products and information are intended for use by Buyers having requisite skill and know-how in the industry. Therefore, it is the responsibility of the Buyer to satisfy the necessary requirements of suitability of the products for its own particular use, and it shall be deemed that Buyer has done so, at its sole discretion and risk. Variation in environment, changes in procedures of use, or extrapolation of data may cause unsatisfactory results. Mer-Ko believes the information contained herein is true and accurate as of the date of publication. Information contained here is for evaluation only. Mer-Ko reserves the right to modify and/or change products or literature at any time and without prior notice.*



**Corporate Office**  
ParexLahabra, Inc.  
4125 E. La Palma Avenue, Suite 250  
Anaheim, CA 92807

(714) 778-2266  
(866) 516-0061  
infomer-ko@parexlahabra.com  
www.parexmer-ko.com

MEMBER OF

