



# ARC Membrane

## Anti-Reflective Crack & Waterproofing Membrane

### MINIMUM DRY FINISHED THICKNESS

Fabric Reinforced Waterproofing Membrane  
20 mils (0.51mm)

### APPROVALS

- ICC-ESR - Report No. 5487
- City of Los Angeles – RR4321
- Meets ANSI A118.10 Requirements

### MATERIAL STANDARDS

- ASTM C109
- ASTM C794
- ASTM D638

### SPECIFICATION CLASSIFICATIONS

- 07 11 13 Bituminous Dampproofing
- 07 14 16 Cold Fluid-Applied Waterproofing
- 07 16 13 Polymer Modified Cement Waterproofing
- 07 19 00 Water Repellents

### MATERIALS NEEDED

- PUC 1000 Sealant  
(When Installed Over Concrete)
- Prep Seal (When Installed Over Plywood)
- ARC Emulsion
- Deck Membrane Filler
- Deck Waterproofing Membrane
- Burlap Fabric 10"
- Glass Mat Fabric 36"
- Burlap Fabric 40"

### USES/APPLICATIONS

- High-Rise Buildings
- Resorts, Spas & Casinos
- Hotels, Motels & Extended Stay Facilities
- Multi-Level/Multi-Use Facilities
- Shopping Malls
- Airports
- Hospitals & Medical Buildings
- Schools & Universities
- Condominium & Apartment Communities
- Decorative Exterior Positive-Side Waterproofing Applications

### SYSTEM DESCRIPTION

ARC Membrane is a multi-layer, fabric reinforced, asphalt modified, latex elastomer designed to create a seamless, waterproofing membrane barrier for use under finished surfaces, such as tile and masonry products, providing high-quality, positive-side waterproofing protection. Its anti-reflective cracking properties inhibit the transfer of cracks from the substrate to the finished surface, contributing to the longevity and aesthetic appeal of the entire application. ARC Membrane incorporates an anti-microbial component, a performance additive that inhibits the growth of mold and mildew on the membrane surface and in damp environments, providing additional protection and defense against environmental health concerns.

ARC Membrane is a cold fluid, trowel applied material that creates a tenacious bond to the properly prepared substrates. It is a thin-section membrane which exhibits exceptional load bearing capacity, elongation and strength. ARC Membrane is an easy to apply, cost-effective material that offers a superior protective waterproofing solution for a wide variety of finished surface applications.

### ADVANTAGES

- Seamless, monolithic waterproofing membrane system
- Rapid installation and cure allowing next-day overlay
- Helps reduce on-grade hydrostatic pressure
- Easily conforms to most forms or irregular shapes
- Thin-section system does not interfere with elevations
- Maintains elastomeric properties at low temperatures
- Outstanding long-term durability and performance
- Superior resistance to damage caused by flexing and twisting
- May be installed over a slip sheet for heavier section finishes (e.g., mud set quarry and pavers, Portland cement, concrete, terrazzo, etc.)

### SUBSTRATES

ARC Membrane system can be installed over properly prepared plywood or concrete substrates and other similar surfaces.

### INSTALLATION CONDITIONS

The ARC Membrane system must not be installed if the ambient temperature is below 40°F (4.4°C) or above 120°F (48.8°C), or when precipitation is occurring or expected within 24 hours.

### SUBSTRATE PREPARATION

The substrate surface must be clean, dry and free of dust and any other contaminants at the time of material application. A minimum finished deck slope of 2% (1/4 unit vertical in 12 units horizontal) is required for proper drainage. Use No. 26 gage bonderized steel or equivalent flashing around the perimeter; clean and degrease all metal flashings with isopropyl or denatured alcohol. Do not use copper perimeter flashings. Stainless steel requires scuffing with the use of 100-120 grit sand paper prior to cleaning.

### Plywood Surfaces

Plywood substrates shall be a minimum 5/8 inch thick (16mm) exterior grade, PS 1, exposure one, plywood, complying with and installed in accordance with the applicable International Building Code (IBC) with all edges blocked. Face plies must be perpendicular to the supports. 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 (101.6mm) on center at sheet perimeters and 8 inches (203.2mm) on center in the field areas, or as otherwise required by the IBC, whichever is more restrictive.

## COVERAGES

Coverage rates are approximate only and can vary greatly due to surface conditions, humidity, temperature and installation techniques.

### **Plywood Joints**

Deck Membrane Filler.....150-200 LFT (46-61m)/40 lb. bag mix

### **Concrete Joints**

Mer-Ko PUC 1000 Sealant ..... 48-64 LFT (15-20 m)/10.5 oz. tube  
(Based On 3/16" Bead)

### **Base Flashing**

**Primer Coat** .....200 ft<sup>2</sup> (18.6 m<sup>2</sup>)/40 lb bag mix  
Yield 1/32" (0.8mm)

### **Horizontal Surface**

**Primer Coat** ..... 160-180 ft<sup>2</sup> (15-17 m<sup>2</sup>)/40 lb bag mix  
Yield 1/32" (0.8mm)

### **Base Flashing**

#### **Reinforced Waterproofing Membrane**

Deck Waterproofing Membrane.....167 ft<sup>2</sup> (14 m<sup>2</sup>)/5 gallon pail  
Yield 20 mil (0.5mm) DFT

Burlap Fabric 10" .....300 LFT (91.5 m)/roll

**Glassmat 36"** ..... 1,200 ft<sup>2</sup> (111.5m<sup>2</sup>)/roll  
**Burlap Fabric 40"** ..... 1,000 ft<sup>2</sup> (93m<sup>2</sup>)/roll

**Protective Coat**..... 160-180 ft<sup>2</sup> (15-17 m<sup>2</sup>)/40 lb bag mix  
Yield 1/32" (0.79mm)

## **Concrete Surfaces**

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

## APPLICATION INSTRUCTIONS

Read all instructions before starting application.

**1.** Installations directly over plywood surfaces should be coated with Mer-Ko Prep Seal Primer prior to application. Mix 1.75 to 2 gallons of ARC Emulsion to one 40 lb. bag Deck Membrane Filler and Fill plywood board joint-spacing gaps, strike flush prior to drying and remove debris. Allow to dry a minimum of 2 hours at 70°F (21°C) 50% RH, prior to commencing with installation of the Deck Membrane Filler primer coat. The use of a mason's grout bag can aid in the application of the membrane filler for joint grouting. Fill concrete control joints with Mer-Ko PUC 1000 sealant and tool flush as necessary. Allow to dry a minimum of 24 hours at 70°F (21°C) 50% RH, prior to commencing with the installation of the Deck Membrane Filler primer coat.

### **2. Primer Coat – Flashing**

Apply a primer coat using a mixture of 1.75 gallons of ARC Emulsion to one 40 lb. bag of Deck Membrane Filler along the flashing surfaces where bonding will occur using a brush, ensuring complete coverage.

### **Primer Coat – Horizontal Surface**

Apply a primer coat of Deck Membrane Filler, (1.5 to 2 gallons of ARC Emulsion to one 40 lb. bag), over the entire horizontal substrate, using a trowel, pulling the material tight. Allow the primed areas to dry a

## PACKAGING

### **Adhesives and Sealants**

PUC 1000 Sealant ..... 10.5oz. (0.3 L)/tube, 12/case

### **Primer**

ARC Emulsion .....5 gal (18.9 L) pail  
Deck Membrane Filler..... 40 lb bag (18.1 kg) bag

### **Waterproof Membrane**

Deck Waterproofing Membrane.....5 gal (18.9 L) pail

### **Fabric Options**

Glass Mat Fabric 36" ..... 1,200 ft<sup>2</sup> (111.5 m<sup>2</sup>) roll  
Burlap Fabric 10" .....300 LFT 91.5 m ) roll  
Burlap Fabric 40" .....1,000 ft<sup>2</sup> 93 m<sup>2</sup> ) roll

### **Protective Coat**

ARC Emulsion .....5 gal (18.9 L) pail  
Deck Membrane Filler.....40 lb (18.1 kg) bag

minimum of 2 hours at 70°F (21°C) 50% RH, prior to commencing with installation of the waterproofing membrane. Remove minor surface imperfections by lightly trowel scraping and or sanding. Remove resulting debris.

### **3. Base Flashing – Reinforced Waterproof Membrane**

Waterproof the flashing area by applying one thick coat of Deck Waterproofing Membrane onto the primed vertical surface and onto the adjacent horizontal surface far enough to accommodate the remaining portion of the Burlap Fabric 10" using a brush or roller, at a minimum 27 wet mils (.68 mm) Immediately embed the Burlap Fabric 10" filament/ fuzzy side down in the wet waterproofing membrane saturating it completely, overlapping successive runs of fabric edges a minimum of 2 inches (51 mm). Make sure the burlap is fitted tightly in corners and around protrusions. Brush apply waterproofing membrane into tight areas and corners to fill holes and other voids. Apply additional Deck Waterproof Membrane as necessary over flashing areas to ensure positive waterproofing (no pinholes). Using the same methods, apply a second coat of waterproofing membrane to all vertical surfaces at a minimum 9 wet mils (0.2 mm) completely covering the burlap. The Deck Waterproofing Membrane should be applied to achieve an over all minimum 20 mils (0.51mm) DFT.

### **4. Waterproof Membrane with Fabric Reinforcement**

Waterproof the horizontal surface, the field, by applying 1 thick coat of Deck Waterproofing Membrane at a minimum 9 wet mils (0.2 mm) over the primed surface, using a trowel or roller, ensuring complete coverage. Immediately and while the material is still wet, embed the Glass Mat Fabric 36" (Option: Burlap Fabric 40") filament/fuzzy side down into the wet waterproofing membrane saturating it completely. Firmly trowel-push the fabric into the wet membrane material to ensure that it is completely embedded. No dry or fabric material spots should be visible and the fabric should lay completely flat and without wrinkles. Overlap successive runs of fabric edges a minimum of 2 inches (51 mm). Apply additional waterproofing membrane as necessary over areas to ensure positive waterproofing (no pinholes). Apply the membrane/fabric/membrane layers in sections working across and off of the horizontal surface.

Follow with an additional coat of waterproofing membrane using the same methods at a minimum 9 wet mils (0.2 mm) completely covering the fabric. The Deck Waterproofing Membrane should be applied to achieve an over all minimum 20 mils (0.51mm) DFT. Allow the entire area to dry a minimum of 24 hours at 70°F (21°C) 50% RH, until dry enough to walk on without leaving impressions. Applications in elevated humidity conditions will require additional dry time.

# Technical Application Guide

## ARC Membrane

### 5. Protective Coat

Apply a coat of Deck Membrane Filler, (1.5 gallons of ARC Emulsion to one 40 lb. bag), as a protective coat over all vertical and horizontal surface areas. Brush or trowel apply vertical areas and trowel apply to the entire deck surface. Allow to dry a minimum of 24 hours at 70°F (21°C) 50% RH. Sand the surface using medium 120-grit sandpaper, sanding discs, or soft burnishing pads as necessary to produce the desired level of finish. Remove any dust or debris.

### Additional Site Protection

The ARC Membrane system must be adequately protected after application and cure for the duration of the project and until final acceptance of the facility.

### CAUTIONS & LIMITATIONS

- Mer-Ko waterproof deck systems are designed for professional installation.
- System warranties require installation by currently listed applicators.
- In freezing climates, sufficient pitch is required to ensure run-off.
- When covering a “sandwich slab” or quarry tile deck, provisions must be made to vent the area between the existing vapor barrier and the ARC Membrane system.
- When installing a deck system over an unheated enclosed space (e.g., soffit, ceiling, etc.) provisions must be made to vent the area.
- Drains must be of a design suitable to receive ARC Membrane system.
- Concrete substrates must have a minimum compressive strength of 3,000 psi tested by “point loading” technique.
- Cementitious materials should be used within 30 minutes, do not re-temper.
- Always apply Prep Seal Primer for inter-coat adhesion between any system layers other than the waterproof membrane, that have cured for more than 72 hours.
- The Deck Waterproofing Membrane should not be exposed for more than 72 hours prior to being covered with the protective coat. Do not leave any other layer unprotected for more than 30 days prior to completing the installation of the finish material.
- Not intended for use as a finished surface.
- Not designed for vehicular or heavy steel wheeled traffic.
- Wood based sub-surfaces used as pedestrian traffic areas require a Mer-Ko underlayment or minimum 1 inch (25.4mm) sand/cement mud bed pre-floated with a self furred, galvanized, welded wire or metal lath reinforcement required to provide a rigid substrate to support traffic (Consult TCNA).

### STORAGE & HANDLING

Store all ARC Membrane materials off the ground in a dry environment at temperatures between 40°F and 100°F (4.4°C and 38°C) and not in direct sunlight. All materials should be stored in compliance with local fire and safety requirements. Always wear proper safety equipment, including particle mask, eye protection and gloves when mixing and/or applying these products.

### SHELF LIFE

Product shelf life for most products is six (6) to twelve (12) months from the date of manufacture when properly stored in the original, unopened container. Refer to individual component data sheets for specific storage and shelf life information.

### WARRANTY

Five (5) and ten (10) year warranties are available depending upon product selection and project design. Contact Mer-Ko’s Customer Service Department for specific warranty information.

### PHYSICAL CHARACTERISTICS FABRIC REINFORCED MEMBRANE

<b>Low Temperature Flexibility</b> ..... Passed (ASTM C734)	(Fabric reinforced membrane)
<b>Elongation over Cracks</b> ..... 0.22 inches (ASTM D638)	
<b>Drying Time</b> .....28 Hours Minimum	at 70°F/21°C and 50% RH
<b>Elongation over Cracks</b> ..... 0.22 inches (ASTM D638)	
<b>Freeze/Thaw Cycling</b> ..... No Change	(250 cycles after cure)
<b>Membrane Value</b> .....No seepage under water-heads to 115 ft.	
<b>Porosity</b> ..... Zero Transmission	(115 psi for One Hour)
<b>Temperature Sensitivity</b>	At Installation.....+40°F to 120°F (+4.4°C to 48.9°C) After Installation.....-60°F to 200°F (+15.6°C to 93.3°C)
<b>Tensile Strength</b> .....450 psi	(ASTM D638)
<b>Thickness</b> .....20 mils (0.51mm) DFT	

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