



ARC Membrane

Anti-Reflective Crack & Waterproofing Membrane

MINIMUM DRY FINISHED THICKNESS

Fabric Reinforced Waterproofing Membrane
20 mils (0.51mm)

APPROVALS

- ICC-ER - 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
- ARC Membrane Filler
- ARC Waterproofing Membrane
- 10" Type III Synthetic Burlap
- Glassmat Type II
- 40" Type III Synthetic Burlap (*Fabric Option*)

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 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 2006 International Building Code and/or 2009 International Building Code 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

Membrane Filler Grout Coat..... 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 ft² (18.6 m²)/40 lb bag mix
Yield 1/32" (0.8mm)

Horizontal Surface

Primer Coat..... 160-180 ft² (15-17 m²)/40 lb bag mix
Yield 1/32" (0.8mm)

Base Flashing

Reinforced Waterproofing Membrane

ARC Waterproofing Membrane..... 167 ft² (14 m²)/5 gallon pail
Yield 20 mil (0.5mm) DFT

Synthetic Burlap 10" 300 LFT (91.5 m)/roll

Glassmat Type II 36" 1,200 ft² (111.5m²)/roll
40" Burlap (Fabric Option) 1,000 ft² (93m²)/roll

Protective Coat 160-180 ft² (15-17 m²)/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 power sprayer, 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/sealer prior to application. Fill plywood board joint-spacing gaps with ARC Membrane Filler, 1.75 to 2 gallons of ARC Emulsion to one 40 lb. bag, 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 ARC Membrane Filler primer coat. The use of a mason's grout bag can aid in the application of the membrane filler 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 ARC 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 ARC 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 ARC 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 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.

PACKAGING

Adhesives and Sealants

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

Primer

ARC Emulsion..... 5 gallon pail..... 18.9 liter pail
ARC Membrane Filler..... 40 lb bag..... 18.1 kg bag

Waterproof Membrane

ARC Waterproofing Membrane..... 5 gallon pail..... 18.9 liter pail

Fabric Options

Glassmat Type II 36" 1,200 ft² roll..... 111.5 m²
Synthetic Burlap 10" 300 LFT roll..... 91.5 m
Synthetic Burlap 40" 1,000 ft² roll..... 93 m²

Protective Coat

ARC Emulsion..... 5 gallon pail..... 18.9 liter pail
ARC Membrane Filler..... 40 lb bag..... 18.1 kg bag

3. Base Flashing – Reinforced Waterproof Membrane

Waterproof the flashing area by applying one thick coat of ARC Waterproofing Membrane onto the primed vertical surface and onto the adjacent horizontal surface far enough to accommodate the remaining portion or the 10" fabric using a brush or roller, at a minimum 15 mil (0.38mm) DFT. Immediately embed the 10" Synthetic Burlap (Type III Fabric) 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 waterproofing 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 5 mil (0.13mm) DFT completely covering the burlap. The ARC Waterproofing Membrane should be applied at 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 ARC Waterproofing Membrane at a minimum 15 mil (0.38mm) DFT over the primed surface, using a trowel or roller, ensuring complete coverage. Immediately and while the material is still wet, embed the Glassmat Type II Fabric (Option: 40" Type III Synthetic Burlap) 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 5 mil (0.13mm) DFT completely covering the fabric. The ARC Waterproofing Membrane should be applied at 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.

5. Protective Coat

Apply a coat of ARC 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, and 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.

Technical Application Guide

ARC Membrane

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 that have cured for more than 72 hours.
- The ARC 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).
- Use of a latex modified mortar (ANSI A118.4) recommended for setting all ceramic and stone tiles to ensure compatibility with ARC Membrane.

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

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

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