

TOTAL FINISHED THICKNESS

¼" to ⅝" (6.35mm to 7.9mm)

APPROVALS

- One-Hour Fire Resistance Rating
- Class A Fire-Retardant Roofing System
- IAPMO Evaluation Report # 517

MATERIAL STANDARDS

- ASTM C109
- ASTM D638
- ASTM C794
- ASTM E108
- ASTM D2047
- ASTM E119
- ASTM D4060
- ASTM G23
- ASTM D570
- AC 39

SPECIFICATION CLASSIFICATIONS

- 07 14 16 Cold Fluid-Applied Waterproofing
- 07 18 13 Pedestrian Traffic Coatings

MATERIALS NEEDED

- MK-90 Mer-Ko Polyurethane Caulking (When Installed Over Concrete)
- MK-65 Weather Deck Slip Sheet
- MK-95 Slip Sheet Adhesive
- MK-80 Mer-Ko Burlap (10" Roll)
- MK-25 Mer-Ko Membrane
- MK-30 Weather Deck Emulsion
- MK-2 Weather Deck Fine Cement
- MK-75 Mer-Ko Lath (38" Roll)
- MK-1 Weather Deck Body Cement
- MK-40 Mer-Ko Topcoat

USES/APPLICATIONS

- Exterior Walking Roof Decks
- Observation Decks
- Promenade Decks & Balconies
- All Pedestrian Traffic Areas
- Walkways & Breezeways

SUBSTRATES

Weather Deck can be installed over properly prepared plywood or concrete substrates.

SYSTEM DESCRIPTION

Weather Deck is a multi-layer decking system that provides seamless, waterproofing membrane protection, superior durability and weather-ability using all high-performance materials. Installs at a minimum ¼ to ⅝ inch finished thickness and is designed for use over properly prepared plywood or concrete substrates. This waterproofing system incorporates an anti-microbial component, a performance additive that inhibits the growth of mold and mildew on the surface and in damp environments.

The incorporation of a "floating" slip-sheet isolates the system's membrane from substrate cracks and minor surface imperfections, providing stress relief for thermal expansion and system integrity when exposed to moderate seismic movement. Weather Deck is finished with a high-solids, pigmented acrylic sealer which provides long-term protection of the system from UV degradation, offering aesthetic appeal and enhanced design flexibility.

ADVANTAGES

- Seamless, monolithic membrane
- Excellent adhesion to most sound, dry substrates
- Maintains elastomeric properties at low temperatures
- Will not soften under high temperatures
- Resists degradation from UV, ozone, and weathering
- Outstanding long-term durability and performance
- Superior resistance to flexing and twisting
- One-Hour Fire Resistance Rating
- Class A Fire-Retardant System



AESTHETIC FINISHES/TEXTURES

Traditional trowel and broom are available, in addition to advanced design options such as lace texturing, trowel knock-down, stippling, stenciling, etc. This wide array of options provides unlimited aesthetic design without superior protection.

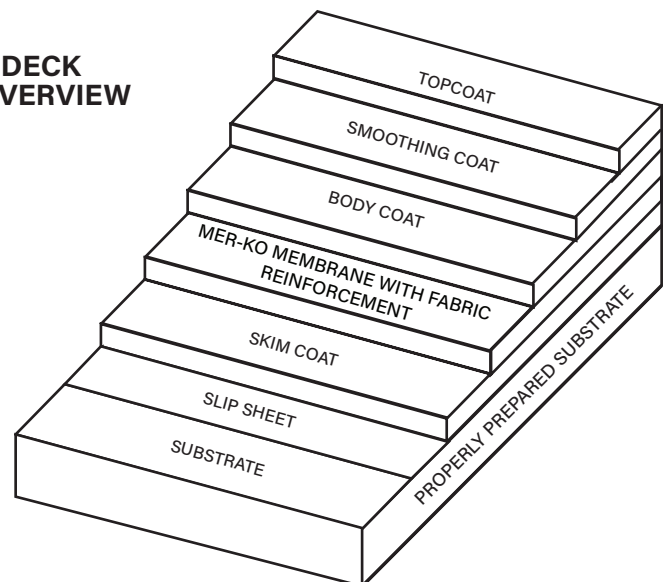
SKID-RESISTANCE

Skid-resistance can be increased by applying a knock down or orange peel type of texture. In conjunction, the use MK-86 Mer-Ko Slip Resistant Additive is recommended with the application of the Topcoat, to enhance skid-resistance.

COLORS

MK-40 Mer-Ko Topcoat is available in 9 colors and features a semi-gloss sheen. Refer to the Mer-Ko Color chart for color selections.

WEATHER DECK SYSTEM OVERVIEW



COVERAGES

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

PLYWOOD JOINTS

MK-2 Weather Deck Fine Cement & MK-30 Weather Deck Emulsion
150-200 LFT/40 lb. bag mix

CONCRETE JOINTS

MK-90 Mer-Ko Polyurethane Caulking
96-128 LFT/20.29 fl. oz sausage
(Based On 3/16" Bead)

SLIP SHEET

MK-65 Weather Deck Slip Sheet
216 ft²/roll

SKIM COAT

MK-2 Weather Deck Fine Cement & MK-30 Weather Deck Emulsion
200 ft²/40 lb. bag mix (Yield 1/32")

MEMBRANE WITH FABRIC REINFORCEMENT (FLASHING)

MK-25 Mer-Ko Membrane
50 ft²/ gallon (Yield 20 mil DFT)
MK-80 Mer-Ko Burlap (10" Roll) 300 LFT/roll

MEMBRANE WITH FABRIC REINFORCEMENT (DECK)

MK-25 Mer-Ko Membrane
1st Application:
40-45 ft²/ gallon (Yield 15 mil DFT)
MK-75 Lath (38" Roll) 475 ft²/roll
2nd Application:
130-140 ft²/ gallon (Yield 5 mil DFT)

BODY COAT (*Total Coverage for Two Coats)

MK-1 Weather Deck Body Cement & MK-30 Weather Deck Emulsion
40-45 ft²/50 lb. bag mix (Yield 1/8")

SMOOTHING COAT

MK-2 Weather Deck Fine Cement & MK-30 Weather Deck Emulsion
150-200 ft²/40 lb. bag mix (Yield 1/32")

TOPCOAT (Two Coats)

MK-40 Mer-Ko Topcoat
300-350 ft²/ gallon

Additional topcoat material may be required for textured or skid resistant finishes

INSTALLATION CONDITIONS

The Weather Deck system must not be installed if the surface or ambient temperature is or will drop below 55°F or rise above 90°F within 24 hours or when precipitation is expected or occurring.

SUBSTRATE INSPECTION AND 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 1/4" per foot slope is required for proper drainage. Use 26 gauge bonderized steel or equivalent flashing around the perimeter; clean and degrease all metal flashings. Do not use copper perimeter flashings. Stainless steel requires scuffing with the use of 100-120 grit sand paper prior to cleaning.

PLYWOOD

Plywood must be minimum 5/8 inch (3/4 inch preferred) exterior grade. Slope must be a minimum of 1/4 inch per linear foot and shall provide for proper drainage. Decks should meet local building codes. The deck shall be tongue and groove, properly blocked and nailed (glued and screwed is best). Plywood shall have a maximum joist span of 16 inches. OSB is not a suitable substrate for this material. Be sure the surface is clean, dry and free of grease, paint, oil, dust or any foreign material that may prevent proper adhesion. Do not apply to wet plywood.

CONCRETE

Concrete must be clean, dry and free of laitance, grease, paint, oil, dust, curing agents or any foreign material that will prevent proper adhesion. The concrete should be at least 3000 psi, porous and able to absorb water. A minimum of 28 days cured is required on all concrete. Before starting flooring work, test existing concrete for moisture. If moisture emissions exceed 3 lbs./1000 sq ft. or 75% RH, contact the manufacturer before application. Concrete shall be prepared by water blasting, grinding or shot blasting as required to produce a clean, sound substrate, equal to a minimum CSP 2-3 per ICRI.

APPLICATION INSTRUCTIONS

In each step of the application, always be sure that the previous coat has fully dried before applying the next coat. Read all instructions before starting application.

FLASHING

Install a minimum 26 gauge, bonderized, 4"x 6" wall-to-deck flashing where the deck meets the wall. Place the 6-inch side up the vertical wall and minimum 4"x 2" fascia flashing on deck edge with the 4" side placed on the deck. Nail in a staggered pattern every 4 to 6 inches. Be sure to caulk all flashings seams and overlaps using MK-90 Polyurethane Caulking.

WALL VENTS

Wall vents help alleviate vapor transmission pressure that can build up underneath the waterproofing membrane of the waterproof deck system. It is recommended that wall vents be installed in the flashing, on all decks that are larger than 500 ft² or approximately one vent for every 300 ft². Wall vents are available from Thunderbird Products (www.thunderbirdproducts.com).

PLYWOOD

Fill all plywood seams with MK-2 Weather Deck Fine Cement. Combine 1.75 to 2 gallons of MK-30 Weather Deck Emulsion and up to 1 quart of water with one 40 lb. bag of MK-2 Weather Deck Fine Cement. Blend with a mechanical mixer until an even consistency is achieved. Fill plywood seams and strike flush prior to drying. A mason's grout bag may be used to expedite this process. After material has dried remove surface imperfections by lightly scraping or sanding. Be sure to remove all debris prior to commencing with the next step.

CONCRETE

All holes shall be cleaned and filled with MK-90 Mer-Ko Polyurethane Caulking or an appropriate Mer-Ko Underlayment. All high spots shall be removed by chipping or grinding. Concrete control joints shall meet local building codes and comply with industry standards.

SLIP SHEET

Apply MK-65 Weather Deck Slip Sheet over the entire deck with a 2 inch distance from all vertical surfaces, parapets, drain openings, etc. The slip sheet edges shall overlap a minimum of 2 inches and end of roll terminations shall be staggered. A 1/4 inch bead of MK-95 Slip Sheet Adhesive shall be used to bond slip sheet overlaps, the slip sheet to the deck perimeter and the slip sheet at intermediate locations to limit the non-bonded area to a maximum of 4000 ft². All seams should be rolled with a weighted roller to ensure the slip sheet is flat and even. A minimum 24 hours drying time at 70°F, 50 percent relative humidity shall be observed before continuing with the installation of the primer coat.

SYSTEM COMPONENTS▪ **MK-90 Mer-Ko Polyurethane Caulking**

20.29 fl. oz. sausage & 10.5 fl. oz. cartridges

▪ **MK-65 Weather Deck Slip Sheet**36" x 72' - 216 ft²▪ **MK-95 Slip Sheet Adhesive**

10.5 fl. oz. tube

▪ **MK-80 Mer-Ko Burlap (10" Roll)**10" x 300' - 250 ft²▪ **MK-25 Mer-Ko Membrane**

5 gal pail

▪ **MK-30 Weather Deck Emulsion**

5 gal pail

▪ **MK-2 Weather Deck Fine Cement**

40 lb bag

▪ **MK-75 Mer-Ko Lath (38" Roll)**38" x 150' - 475 ft²▪ **MK-1 Weather Deck Body Cement**

50 lb bag

▪ **MK-40 Mer-Ko Topcoat**

5 gal pail

(Optional)▪ **MK-86 Mer-Ko Slip Resistant Additive**

32 ounce container

SKIM COAT - FLASHING AND HORIZONTAL SURFACE

The Skim Coat is prepared by mixing one bag of MK-2 Weather Deck Fine Cement with 1.5 to 2 gallons of MK-30 Weather Deck Emulsion. The Skim Coat is applied by trowel over the entire horizontal substrate and adjacent flashing surfaces where bonding will occur, to a minimum 1/32 inch thickness. A minimum two hours drying time at 70°F, 50 percent relative humidity shall be observed before continuing with the application of the waterproof membrane. Minor surface imperfections shall be treated by scraping and/or sanding. Ensure all dust and debris has been removed.

MER-KO MEMBRANE WITH FABRIC REINFORCEMENT (FLASHING)

Apply a thick coat of MK-25 Mer-Ko Membrane onto the vertical and adjacent horizontal surface using a brush or roller at a rate of 50 ft² per gallon. Immediately after the MK-25 has been applied and while the material is still wet, place the MK-80 Mer-Ko Burlap fuzzy side down into the wet MK-25, overlapping successive runs of fabric edges and ends a minimum of 2 inches. Make sure the burlap is fitted tightly in corners and around protrusions. Apply additional MK-25 as necessary over the burlap fabric to ensure positive waterproofing and that the burlap is completely covered. No dry or fabric material spots shall be visible and the fabric shall be completely flat and without wrinkles.

MER-KO MEMBRANE WITH FABRIC REINFORCEMENT (DECK)

Install the MK-75 Mer-Ko Lath to the horizontal surfaces. Roll out the MK-75 and cut to size. Lay the lath "curl side" down over the Base Coat. Overlap successive runs of MK-75 edges and ends a minimum of 2 inches. Pour the MK-25 Mer-Ko Membrane onto the MK-75 and trowel smooth and back roll completely covering the MK-75. The coverage rate of the MK-25 in this application is 45-50 ft² per gallon. Apply additional MK-25 as necessary over areas to ensure positive waterproofing. Apply an additional coat of the MK-25 over the entire surface at a rate of 130 to 140 ft² per gallon by trowel or roller. Let dry a minimum of 24 hours or until dry enough to walk on without leaving impressions. Applications in elevated or high humidity conditions will require additional dry time.

BODY COAT

The Body Coat is a two-coat application and is prepared by mixing 1 to 1.25 gallons of MK-30 Weather Deck Emulsion and up to 1 quart of water to one bag of MK-1 Weather Deck Body Cement. The first coat is troweled across the dry membrane at a rate of 80 to 90 ft² per mix. A second coat is applied again, at a rate of 80-90 ft² per mix. Allow a minimum of 2 hours between coats. The Body Coat should equal a minimum 1/8 inch total thickness. Allow the Body Coat to dry a minimum 4 hours at 70°F, 50 percent relative humidity. Remove minor surface imperfections by lightly scraping or sanding. Ensure all dust and debris has been removed.

SMOOTHING COAT

The Smoothing Coat is mixture of 1.5 to 2 gallons of MK-30 Weather Deck Emulsion and up to 1.5 quarts of water to one 40 lb. bag of MK-2 Weather Deck Fine Cement. The mixture is applied over all vertical and horizontal surfaces at a rate of 150-200 ft² per mix, producing a minimum 1/32 inch thickness. Optionally, for texture or an extra smooth surface, apply a second coat. The first coat needs to dry a minimum of two hours before proceeding with any second application. Allow the final coat to dry a minimum 24 hours at 70°F, 50 percent relative humidity and then the surface can be sanded to produce the desired level of finish. Ensure all dust and debris has been removed.

TOPCOAT

The MK-40 Mer-Ko Topcoat is applied in two coats. Apply the first coat at the rate of 300 to 350 ft² per gallon. Allow to dry for 2 hours at 70°F, 50 percent relative humidity. Then apply a second coat of the MK-40 perpendicular to the first, at the rate of 300 to 350 ft² per gallon. Allow 6 to 8 hours to dry before returning to light service and 24 hours for normal service (70°F, 50 percent relative humidity). For small areas or in locations with cool temperatures, one coat of the MK-40 may be applied at 150 to 175 ft² per gallon.

SLIP RESISTANT ADDITIVE (OPTIONAL)

To enhance skid resistance, mix 1 quart (32 ounces by volume) of MK-86 per 5 gallons of MK-40 Mer-Ko Topcoat (apply to the 2nd of the two coats). This will leave a consistent texture that is still fairly easy to clean. The actual slip resistance will be greatly affected by the existing texture of the surface you are covering and the thickness of the topcoat applied. Do not exceed this amount without consulting Mer-Ko.

PHYSICAL CHARACTERISTICS

Abrasion Resistance

(ASTM D4060, C-17 Wheel, 1,000 gram load for
1,000 cycles)
0.375 mg loss

Adhesion (ASTM C794)

> 755 psi

Compressive Strength (ASTM C109)

3,500 psi

Elongation (ASTM D638)

0.04 ft./ft.

Fire Rating

One-Hour (ASTM E-119)

Class A Fire-Retardant Rated (ASTM E-108)

Ozone Resistance

No visual adverse effects after 30 days exposure

Resistance to Aging (ASTM G23, AC 39)

2,000 hours No visual signs of failure

APPLICATION INSTRUCTIONS - ON STAIRS**SUBSTRATE PREPARATION**

After the initial substrate preparation, nail all metal flashings 3 inches on center with staggered spacing using galvanized roofing nails. Install appropriate aluminum stair nosing on all treads using screw nails or galvanized deck screws. Install according to stair nosing manufacturer's recommendation. Protect the bull nose/ finished portion of the stair nosing during application of the Weather Deck system. The MK-65 Weather Deck Slip Sheet is not used on stairs, a direct bond to the substrate occurs.

SKIM COAT FLASHING, VERTICAL AND HORIZONTAL SURFACES

Apply the Skim Coat to all stairs. Follow the same instructions per section "Skim Coat".

MER-KO MEMBRANE WITH FABRIC REINFORCEMENT

Install MK-80 Mer-Ko Burlap to all stairs. Follow the same instructions per section "Mer-Ko Membrane with Fabric Reinforcement".

BODY COAT

Apply the Body Coat to all stairs. Follow the same instructions per section "Body Coat". Use a torpedo level to check every step for proper pitch.

SMOOTHING COAT

Apply the Smoothing Coat to all stairs. Follow the same instructions per section "Smoothing Coat".

TOPCOAT

Apply the MK-40 Topcoat to all stairs. Follow the same instructions per section "Topcoat".

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" provision must be made to vent the area created between the existing vapor barrier and the Weather Deck.
- When installing a deck system over an unheated enclosed space (e.g., garage, etc.) provisions must be made to vent the area.
- Drains must be of a design suitable to receive Weather Deck system.
- Concrete substrates must have a minimum compressive strength of 3000 psi tested by "point loading" technique.
- Weather Deck provides moderate chemical resistance. Avoid exposure to harsh chemicals or acids.
- Heavy objects can affect movement of the slip sheet decking system and result in hairline cracks at the surface of the system. Avoid placing heavy objects on or dragging them across the Weather Deck surface.
- Cementitious materials should be used within 30 minutes, do not re-temper.
- The substrate must be flat. Irregularities, if not corrected, will reflect on the Weather Deck surface.
- Compositions of oxychloride cement, epoxies, urethanes, PVC's, PVA's, silicones, solvent thinned elastomer solutions or combinations thereof will not be considered acceptable under this specification.
- The Waterproofing Membrane should not be exposed for more than 72 hours prior to being covered with the MK-1 Weather Deck Body Cement.
- Do not leave any layer unprotected for more than 30 days prior to completing the full system installation, including the final topcoat application.
- Not designed for vehicular or heavy steel wheeled traffic.
- Protect all finished surfaces that are not intended to receive the deck coating system materials.
- Rain will wash away uncured Mer-Ko acrylic products.
- If inclement weather threatens, cover deck to protect new application.
- Sealers will make the surface slippery. Please be aware of the texture of the surface and how the sealer will affect the look, feel and skid resistance.
- Approval and verification of proposed colors, textures and slip resistance is recommended.

PHYSICAL CHARACTERISTICS

Tensile Strength (ASTM D-638)

>625 psi

Thickness

¼ to ⅝ inch

Water Absorption (ASTM D-570, AC 39/S4.8)

Average 7.9%

Weight Average 2.5 lbs/ft²

Wind Resistance 80 mph

CARE & MAINTENANCE

Weather Deck is designed to provide easy clean-ability and low maintenance. To extend the life of the deck to its maximum potential, establish a regular cleaning schedule using a mild soap and water solution, TSP (Tri Sodium Phosphate) or similar products (check suitability before using). Use a stiff broom or scrub brush to remove any contaminants on the surface of the deck. Rinse thoroughly with clean water after scrubbing. Do not use solvents to remove contaminants as this may cause damage to the deck surface. The Mer-Ko Topcoat is designed to resist direct exposure to environmental elements and withstand normal wear. When traffic patterns become visible or heavy impacts mar the surface, the topcoat should be re-applied to restore aesthetic appeal. Decks should be re-sealed every 3 years or sooner for best results or per the schedule listed on the warranty issued. The functionality of the Weather Deck system is not impacted by aesthetic imperfections. Refer to Cementitious Care & Maintenance Instructions for more detailed information on proper care and maintenance.

STORAGE & HANDLING

Store all Weather Deck materials off the ground in a dry environment at temperatures between 50°F and 90°F 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 Product Specification Sheets for specific storage and shelf life information.

WARRANTY

Standard five (5) year warranties are available depending upon product selection and project design. Contact Mer-Ko Customer Service Department for specific warranty information.

SLIP PRECAUTION

Mer-Ko highly recommends the use of a slip-resistant additive to all coatings/systems that may be exposed to wet, oily, greasy or slippery conditions. It is the end user's responsibility to provide a flooring system that meets current safety standards. Mer-Ko and its distributors will not be responsible for injury incurred during a slip and fall incident. For the current coefficient of friction requirements, please consult your local building codes.

HEALTH PRECAUTIONS

Inhalation of vapor or mist can cause headache, nausea, irritation of nose, throat and lungs. Prolonged or repeated skin contact can cause slight skin irritation. Cements contain silicas; dust mask or respirator should be used when mixing, sanding or grinding.

DISCLAIMER

Purchaser's sole and exclusive remedy against the manufacturer of Mer-Ko, shall be limited solely to the replacement of any defective material or a payment by the manufacturer in an amount equal to the cost of the original material.