westcoat® SYSTEM SPECIFICATION

WP WATERPROOF RELIABLE MOISTURE BARRIERS

Mer-ko® System

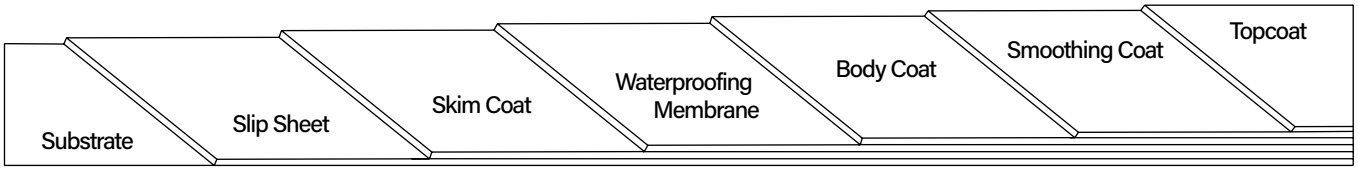
Description

The Mer-ko System 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 5⁄16 inch finished thickness and is designed for use over properly prepared plywood or concrete substrates. 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. The Mer-ko System 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.

Uses

The Mer-ko System is designed for exterior walking roof decks, observation decks, promenade decks and balconies, all pedestrian traffic areas and walkways and breezeways.

System Overview



System Data

Coverages	Skim Coat	Membrane Coat	Body Coat	Smoothing Coat	Top Coat
	200 ft² per mix (Yield 1/32")	Flashing 50 ft² per gal Deck 1st: 40-45 ft² per gal Deck 2nd: 130-140 ft² per gal	40-45 ft² per mix (Yield 1/8")	150-200 ft per mix (Yield 1/32")	300-350 ft² per gal

Components		Shelf Life
	WP-53 Hybrid Sealant	1 year
	WP-49 Mer-ko Slip Sheet	5 years
	WP-45 Flashing Fabric	Indefinite
	WP-95 Waterproofing Membrane	1 year
	WP-89 Liquid Emulsion	1 year
	TC-14 Fine Deck Cement	1 year
	WP-48 Tri-Directional Fiberlath	1 year
	TC-13 Coarse Deck Cement	1 year
	SC-10 Acrylic Topcoat	2 years

ER-517 IAPMO ES®

Certifications IAPMO Evaluation Report ER-517
Class A Fire-Retardant Roofing System One-Hour Fire Resistance Rating
Class I Vapor Retarder ASTM E96
Meets 2023 City of Los Angeles Building and Residential Code (LABC & LARC)

Mer-ko® System

Advantages
Seamless, Monolithic Membrane ▪ Excellent Adhesion to Most Sound, Dry Substances ▪ 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

Inspection
Concrete must be a minimum of 2 inches thick. It must be clean, dry and free of grease, paint, oil, dust, curing agents, laitance or any foreign material that will prevent proper adhesion. The concrete should be at least 3,000 PSI, porous and able to absorb water. A minimum of 28 days curing time is required on all concrete. Slope must be a minimum of ¼ inch per linear foot. Decks should meet local building code.

Plywood must be a minimum of ⅝ inch (¾ inch preferred) CDX or exterior grade. Slope must be a minimum of ¼ inch per linear foot to allow for proper drainage. Decks should meet local building codes. The deck shall be tongue and groove, completely blocked and nailed (glued and screwed is best). Plywood shall have a maximum joist span of 16 inches. Deflection should be less than L/360. OSB is not a suitable substrate for this material. Moisture vapor commonly collects in areas below a vapor barrier, such as the waterproofing membrane of the deck covering system. Venting must be added to help relieve moisture vapor transmission. Please refer to all local building codes regarding venting requirements.

Moisture
All concrete should be tested for moisture before applying a seamless coating. If moisture emissions exceed 4% by weight using a concrete moisture meter (ASTM F2659) or if the relative humidity (RH) exceeds 75% (ASTM F2170), please refer to the EC-15 Moisture Vapor Barrier Product Specification Sheet.

Preparation
Prepare concrete to a profile equal to CSP 3 as specified by ICRI.

Flashing
Westcoat requires a minimum of 26-gauge bonderized sheet metal. Use 4 x 6 inch 'L' flashing at the junction of the wall and deck. Use 2 x 4 inch drip edge flashing for fascia edge. Overlap all ends at least four inches. Apply two beads of WP-53 Hybrid Sealant to all seams. Nail flashing every 4-6 inches. Flashing for concrete should be set in a bed of EC-72 and nailed only as needed. The vertical portion of the wall to deck flashing should be nailed at all studs, after the epoxy base has cured. (Note: If the flashing is not bonderized, it must be prepared in accordance with SSPC-SP11 surface preparation standards, in order for the coating to adhere properly). Do not use Copper Flashing with the Mer-ko System.

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 square feet or approximately one vent for every 300 square feet. Wall vents are available from Thunderbird Products (www.thunderbirdproducts.com).

Plywood
Fill all plywood seams with TC-14 Fine Deck Cement. Combine 1.75 to 2 gallons of WP-89 Liquid Emulsion and up to 1 quart of water with one 40 lb. bag of TC-14 Fine Deck 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 WP-53 Hybrid Sealant or an appropriate 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 WP-49 Mer-ko 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 ¼ inch bead of WP-53 Hybrid Sealant 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 square feet. 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 70F degrees, 50 percent relative humidity shall be observed before continuing with the installation of the primer coat.

Skim Coat - Flashing and Horizontal Surface
The Skim Coat is prepared by mixing one bag of TC-14 Fine Deck Cement with 1.5 to 2 gallons of WP-89 Liquid 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 70F degrees, 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.

Waterproofing Membrane with Fabric Reinforcement (Flashing)
Apply a coat of WP-95 Waterproofing Membrane onto the vertical and adjacent horizontal surface using a brush or roller at a rate of 50 square feet per gallon. Immediately after the WP-95 has been applied and while the material is still wet, place the WP-45 Flashing Fabric fuzzy side down into the wet WP-95, overlapping successive runs of fabric edges and ends a minimum of 2 inches. Make sure the fabric is fitted tightly in corners and around protrusions. Apply additional WP-95 as necessary over the fabric to ensure positive waterproofing and that the fabric is completely covered. No dry or fabric material spots shall be visible and the fabric shall be completely flat and without wrinkles.

Waterproofing Membrane with Fabric Reinforcement (Deck)
Install the WP-48 Tri-Directional Fiberlath to the horizontal surfaces. Roll out the WP-48 and cut to size. Lay the lath "curl side" down over the Base Coat. Overlap successive runs of WP-48 edges and ends a minimum of 2 inches. Pour the WP-95 Waterproofing Membrane onto the WP-48 and trowel smooth and back roll completely covering the WP-48. The coverage rate of the WP-95 in this application is 45-50 square feet per gallon. Apply additional WP-95 as necessary over areas to ensure positive waterproofing. Apply an additional coat of the WP-95 over the entire surface at a rate of 130 to 140 square feet 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.

Mer-ko® System

Body Coat
The Body Coat is a two-coat application and is prepared by mixing 1 to 1.25 gallons of WP-89 Liquid Emulsion and up to 1 quart of water to one bag of TC-13 Coarse Deck Cement. The first coat is troweled across the dry membrane at a rate of 80 to 90 square feet per mix. A second coat is applied again, at a rate of 80-90 square feet per mix. Allow a minimum of 2 hours between coats. The Body Coat should equal a minimum ⅛ inch total thickness. Allow the Body Coat to dry a minimum 4 hours at 70F degrees, 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 WP-89 Liquid Emulsion and up to 1.5 quarts of water to one 40 lb. bag of TC-14 Fine Deck Cement. The mixture is applied over all vertical and horizontal surfaces at a rate of 150-200 square feet 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 70F degrees, 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
Do not apply if rain is forecast within 48 hours or heavy dew within 24 hours. If multiple batches of SC-10 are present, box all materials prior to use, to ensure color consistency. Use a mechanical mixer at a slow speed and mix material until a homogeneous mixture and color is obtained. The material may be thinned by adding up to a maximum of one quart of water per gallon, for the first coat. For best results, it is not recommended to thin the final coat. Roll two thin applications of SC-10 using a ⅜-½ inch roller at a rate of 300-350 square feet per gallon. Roll the material in two directions to achieve a uniform finish. Coverage will vary according to texture. For best results, allow SC-10 4-6 hours drying time at 70F degrees before permitting light pedestrian traffic or additional coats are applied. Allow 24 hours to cure before heavy traffic is permitted. Allow 48 hours before heavy objects are placed on the surface. Allow 5 days prior to any abrasion or chemical exposure.

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 WP-49 Mer-ko 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® System

Waterproofing Membrane with Fabric Reinforcement
Install WP-45 Flashing Fabric to all stairs. Follow the same instructions per section "Waterproofing 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 SC-10 Acrylic Topcoat to all stairs. Follow the same instructions per section "Topcoat".

Optional Materials
Skid Resistance
- CA-29 Mini Safe Grip, CA-30 Small Safe Grip or CA-31 Large Safe Grip can be added to the SC-10 Acrylic Topcoat for added skid resistance.

* Please refer to Product and System Specification Sheets for additional information.

Clean Up
Uncured material can be removed with soap and warm water. If cured, material can be removed mechanically or with an environmentally-safe solvent.

Maintenance
Exterior surfaces can be swept daily with water and a broom. For tougher dirt or grease, use degreaser diluted with water 20:1 and a soft bristle brush or broom. Be sure to rinse well. To remove calcium or lime build up, brush diluted 100 grain vinegar onto the surface; be sure to rinse any residue. The Mer-ko System should be inspected for wear every 2 to 4 years. The system should be resealed with the appropriate Westcoat sealer every 3 to 5 years depending upon traffic and UV exposure. Contact the original installer of Westcoat for complete re-coating instructions.

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.

Mer-ko® System

Limitations

- This system is designed for professional use only.
- In freezing climates, sufficient pitch is required to ensure run-off.
- Read Product Specification Sheets for every product you will be using before beginning the project.
- Do not apply at temperatures below 50°F or above 90°F.
- Do not allow Westcoat products to freeze.
- When covering a "sandwich slab" provision must be made to vent the area created between the existing vapor barrier and the 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 Mer-ko system.
- Concrete substrates must have a minimum compressive strength of 3000 psi tested by "point loading" technique.
- Mer-ko System 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 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 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 TC-13 Coarse Deck 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 System 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.
- Moisture vapor commonly collects in areas below a vapor barrier, such as the waterproofing membrane of the deck covering system. Venting must be added to help relieve moisture vapor transmission. Please refer to all local building codes regarding venting requirements.

Mer-ko® System

Slip Precaution

Westcoat Specialty Coatings Systems 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. Westcoat 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.

Test Data

Test	Results
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
Fire Rating Class A Fire-Retardant Rated	ASTM E-108
Ozone Resistance - 30 day exposure	No visual adverse effects
Resistance to Aging (ASTM G23, AC 39)	2,000 hours No visual signs of failure
Tensile Strength (ASTM D-638)	>625 psi
Thickness	¼ to 5⁄16 inch
Water Absorption(ASTM D-570, AC 39/S4.8)	Average 7.9%
Weight	Average 2.5 lbs/ft^2