



Shur Deck

Waterproof, Fire-Resistive Roof & Pedestrian Decking

TOTAL FINISHED THICKNESS
3/16" to 1/4" (4.8 to 6.35mm)

APPROVALS

- One-Hour Fire Resistive Rating
- Class A Roofing & Decking System
City of Los Angeles - RR25774
- ICC-ES - Report No. 5968

MATERIAL STANDARDS

- AC 39/Section 4.3
- AC 39/Section 4.8
- ASTM 1242A
- ASTM C-109
- ASTM C-190
- ASTM C-297
- ASTM C-67-03a
- ASTM C-794
- ASTM D-2047
- ASTM D-2240
- ASTM D-412
- ASTM D-570
- ASTM D-756
- ASTM E-108
- MIL-D-3134
(Para. 4.7.6; Para. 3.9, 4.7.4)
- UBC 15-2

SPECIFICATION CLASSIFICATIONS

- 07 55 56 Fluid-Applied Protected Membrane Roofing
- 07 55 53 Elastomeric Protected Membrane Roofing
- 07 25 00 Weather Barriers
- 07 19 00 Water Repellents
- 07 18 13 Pedestrian Traffic Coatings
- 07 16 13 Polymer Modified Cement Waterproofing
- 07 14 16 Cold Fluid-Applied Waterproofing
- 09 94 13 Textured Finishing
- 09 94 16 Faux Finishing
- 09 96 13 Abrasion-Resistant Coatings

MATERIALS NEEDED

- Metal Lath, 2.5 Galvanized
(When Installed Over Plywood)
- Staples, minimum 5/8" leg
(minimum 3/4" Crown)
(When Installed Over Plywood)
- Shur Deck Compound
- Burlap Fabric 10"
- Deck Waterproofing Membrane
- Glass Mat Fabric 36"
- Burlap Fabric 40" (optional)
- Prep Seal Primer
- Mer-Ko Seal Topcoat

SYSTEM DESCRIPTION

Shur Deck is a multi-layer, cementitious roof and walking deck system designed for use over plywood or concrete substrates. This system consists of reinforcing metal lath (when installed over plywood), cementitious filler, reinforced flexible latex waterproofing membrane and acrylic sealer. This waterproofing 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. Installed at a minimum 3/16 to 1/4 inch (4.8 to 6.35mm) finished thickness, this seamless, trowel applied system provides long-term durability and waterproofing protection over plywood or concrete substrates.

Shur Deck incorporates flashing at vertical surfaces, and thresholds and drip edge flashing or drains on horizontal surfaces. In addition, sloping and integral coving can be incorporated for additional protection against pooling and to prevent elevation problems at doorways, landings, steps, etc.

Shur Deck's seamless, waterproof, skid and crack-resistant walking surface offers a wide variety of finish options and textures to ensure maximum design flexibility and aesthetic appeal.

USES/APPLICATIONS

- Exterior Flat/Walking Roof Decks
- Observation Decks
- Promenade Decks & Balconies
- Commercial & Residential Pedestrian Traffic Areas
- Elevated and On-Grade Walkways, Breezeways, & Exterior Corridors

ADVANTAGES

- Seamless, monolithic membrane
- Maintains elastomeric properties at low temperatures
- Resists degradation from UV, ozone, and weathering
- Excellent resistance to salt spray and many common chemicals
- Excellent resistance to water penetration and carbon dioxide diffusion
- Outstanding long-term durability and performance
- Superior resistance to flexing and twisting
- One Hour Fire-Resistive Rating
- Class A Roofing & Decking System
- Solvent-free and environmentally friendly
- Easy to maintain

SUBSTRATES

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

AESTHETIC FINISHES/TEXTURES

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

COLORS

Mer-Ko Seal Topcoat is available in 16 standard and 12 Sport Court colors in matte with select colors available in satin and semigloss. Consult the Color Selection Guide for additional details.

COVERAGES

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

Base Flashing

Primer Coat.....160-180 ft² (15-17 m²)/50 lb bag mix
Yield 1/32" (0.8 mm)

Bondcoat over Concrete 80-90 ft² (7.4-8.4 m²)/50 lb bag mix
Yield 1/16" (1.6mm)

Prep Seal Primer over Plywood 1,750-2,000 ft² (163-186 m²)/5 gallon pail

Bondcoat over Plywood40-45 ft² (3.72-4 m²) / 50 lb bag mix
Yield 1/8" (3.2mm)

Base Flashing

Waterproofing Membrane

Deck Waterproofing Membrane 50 ft² (4.6 m²)/gallon
Flashing Application 250ft² (23.2 m²)/5 gallon pail
Yield 15 mil (0.38mm) DFT

Burlap Fabric 10" 300 LFT (91m)/roll

Deck Waterproofing Membrane 67 ft² (6.22m²)/gallon
335 ft² (31 m²)/5 gallon pail
Yield 10 mil (0.25mm) DFT

Glass Mat Fabric 36"1,200 ft² (111.5m²)/roll
Burlap Fabric 40" (Fabric Option)1,000 ft² (92.9m²)/roll

Deck Waterproofing Membrane

2nd Base Application.....150 ft² (14m²)/gallon
750 ft² (69.6 m²)/5 gallon pail
Yield 5 mil (0.13mm) DFT

Bodycoat 40 to 45 ft² (3.7 to 4.2 m²)/50 lb bag mix
Yield 1/8" (1.6mm)

Texture Coat.....120 ft² (11.2 m²)/50 lb bag mix
Yield 1/16" (62.5 mil, 1.6mm)

Intercoat Primer.....1,750-2,000 ft² (163-186 m²)/5 gallon pail

Topcoat 750-1,000 ft² (70-93 m²)/5 gallon pail

SKID-RESISTANCE

Additional skid-resistance can be incorporated by adding texture to the Bodycoat depending upon the level of skid-resistance desired. The use of texture is recommended with Mer-Ko Seal Satin and Semi-Gloss finishes to enhance skid-resistance.

INSTALLATION CONDITIONS

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

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.

PACKAGING

Primer/Bondcoat/Bodycoat

Shur Deck Compound.....50 lb. (22.7 kg) bag

Waterproofing Membrane

Deck Waterproofing Membrane5 gallon (18.9 liter) pail

Fabrics

Glass Mat Fabric 36"1,200 ft² (111.5 m²) roll

Burlap Fabric 10"300 LFT (91m) roll

Burlap Fabric 40"300 LFT (91m) roll

Primer

Prep Seal Primer5 gallon (18.9 liter) pail

Topcoat

Mer-Ko Seal (Matte, Satin, Semi-Gloss)5 gallon (18.9 liter) pail

Concrete Surfaces

Concrete surfaces must be clean, sound and provide a uniform surface free of depressions and ridges. Prepare concrete surfaces using a power 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 ft (6.1 m).

APPLICATION INSTRUCTIONS

Read all instructions before starting application.

1. Metal Lath Over Plywood

Apply one coat of Prep Seal Primer to the plywood substrate using a 3/8 to 3/4 inch nap paint roller, ensuring complete coverage. Install a minimum 2.5 lbs per sq. yd. galvanized expanded metal lath, perpendicular to plywood sheets over the entire deck area with the seams butted together and not overlapped. Lath must be installed over metal flashing, stopping a minimum of 1 inch (25.4mm), from any deck edge or vertical juncture. Where a fire resistive rating is NOT required, plastic lath can also be used provided it is rated as an equal to 2.5 lbs per sq yd galvanized expanded metal lath. The lath seams must be staggered a minimum of 2 inches (51mm) from plywood joints with lath sheet ends staggered a minimum 12 inches from any adjacent sheets. A minimum of 22 (minimum 5/8 inch leg X minimum 3/4 inch crown 16 ga.) staples per sq. ft. (238 staples per sq. m.) is required to attach the lath to the plywood substrate. In addition, the lath seams are attached to the plywood substrate with 12 staples per LFT (38 staples per meter) with the staples crossing the seam. Staples should be placed from the center of the lath to the outside edges so as not to form bulges. Check for high staples and lath edges, driving them flush using a hammer.

2. Primer Coat – Flashing

Apply a primer coat, 1.5 gallons of water to one 50 lb. bag of Shur Deck Compound, along the flashing surfaces where bonding will occur using a brush and ensuring complete coverage.

3. Bondcoat – Over Plywood

Apply Shur Deck Compound, 1 to 1.25 gallons of water to one 50 lb. bag, over the horizontal metal lath surface using a trowel, at a minimum 1/8 inch (3.2mm) ensuring that all metal and plywood is completely covered and that the surface is flat. Allow to dry a minimum 8 hours at 70°F (21°C) 50% RH, before continuing with the application of the waterproofing membrane and once again check for high staples and lath edges, if necessary drive them flush using a hammer.

Applications in elevated humidity conditions will require additional drying time. Proper application of the Bondcoat may allow you to see the pattern of the lath without seeing bare metal and without pockets or low spots of Bondcoat material. After cure, check the surface of the Bondcoat and remove minor surface imperfections and high points by lightly trowel scraping the area. Remove debris. Applications in elevated humidity conditions will require additional drying time before continuing with the application of the waterproofing membrane.

Bondcoat – Over Concrete

When applying Shur Deck over a concrete substrate, Prep Seal primer and metal lath are not used.

Apply Shur Deck Compound, 1.25 gallons of water to one 50 lb. bag, over the horizontal concrete surface using a trowel, at a minimum 1/16 inch (1.6mm) ensuring that all concrete surface is completely covered and that the surface is flat. Allow to dry a minimum 6 hours at 70°F (21°C) 50% RH, before continuing with the application of the waterproofing membrane. After cure, check the surface of the Bondcoat and remove minor surface imperfections and high points by lightly trowel scraping the area. Remove debris. Applications in elevated humidity conditions will require additional drying time before continuing with the application of the waterproofing membrane.

4. Base Flashing – Reinforced Waterproofing Membrane

Waterproof the flashing area by brush or roller applying 1 thick coat of Deck Waterproofing Membrane Membrane onto the primed vertical surface and onto the adjacent horizontal surface far enough to accommodate the remaining portion or the 10" fabric at a minimum 10 mil (0.25mm) DFT. Immediately embed the Burlap Fabric 10" filament/fuzzy side down in the wet Waterproofing Membrane saturating it completely. 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 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 Deck Waterproofing Membrane should be applied at an over all minimum 15 mils (0.38mm) DFT.

5. Reinforced Waterproofing Membrane

Waterproof the horizontal surface by trowel or roller applying 1 thick coat of Deck Waterproofing Membrane at a minimum 10 mil (0.25mm) DFT over the primed surface, ensuring complete coverage. Immediately after the Waterproofing Membrane has been applied and while the material is still wet, embed the Glass Mat 36" into the wet Deck 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 Deck Waterproofing Membrane using the same methods at a minimum 5 mil (0.13mm) DFT complete covering the fabric. Deck Waterproofing Membrane should be applied at an over all minimum 15 mils (0.38mm) 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.

6. Bodycoat

Apply Shur Deck Compound, 1.25 gallons of water to one 50 lb. bag, over all vertical and horizontal surface areas. Brush or trowel apply to vertical areas and trowel apply to the entire deck surface. Optionally, for texture or an extra smooth surface, apply a second coat. Allow the first coat to dry a minimum of 1 hour before proceeding with any second application. 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.

Texture Coat – Optional

A texture coat consisting of the identical or slightly wetter (maximum of 1.5 gallons of water) material mix used for the Bodycoat may be applied using a hopper gun if desired. Use a trowel to knock-down or flatten the material while it is still wet. 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.

PHYSICAL CHARACTERISTICS – DECK WEARING SURFACE

Abrasion Resistance	0.001 inch loss (ASTM 1242A, AC 39, H-22 Wheel, 1,000 gram load for 1,000 cycles)	Over Mer-Ko Seal SG Topcoat
Adhesion	> 374 psi (ASTM C794)	(Burlap reinforced membrane)
Bond Strength	Over Plywood, Before Aging68 psi (ASTM C297) Over Plywood, After Aging98 psi Over Plywood, Freeze/Thaw Exposure 74 psi Over Plywood, Freeze/Thaw Exposure 74 psi Over Galvanized Sheet Metal, Before Aging 106 psi Over Galvanized Sheet Metal, After Aging 127 psi Over Galvanized Sheet Metal, Freeze/Thaw Exposure 115 psi	
Compressive Strength	3,500 psi (ASTM C109)	
Elongation	0.04 ft./ft. (ASTM D638)	No visual signs of failure
Freeze/Thaw Cycling	No breakage or weight loss (ASTM C67)	
Fire Rating	ICC-ES Listed (ASTM E108, AC 39/S4.3, UBC 15-2)	One-Hour, Class A Fire-Resistive Rated
Indentation Characteristics	Complies (MIL-D-3134, Para. 3.9, 4.7.4)	
Membrane Value	No seepage under water-heads to 115 ft.	
Ozone Resistance	No visual adverse effects after 30 days exposure	
Resistance to Aging	2000 hours, No visual signs of failure (ASTM G23, AC 39)	
Slip Resistance ¹	Dry Leather 0.49 (ASTM D2047, Wet Leather 0.59 MIL-D-3134, Para. 4.7.6) Dry Rubber 0.80 Wet Rubber 0.84	¹ Tested using Mer-Ko Seal Matte Finish material
Surface Hardness	84 (Durometer D)	
Tensile Strength	>450 psi (ASTM C190)	(Glassmat reinforced)
Thickness	3/16 to 1/4 inch (4.8 mm to 6.35mm)	
Water Absorption	Average 9.0% (ASTM D570, AC 39/S4.8)	
Weight	<2 lbs./ft ²	
Wind Resistance	80 mph (129 kph)	

CHEMICAL RESISTANCE

Solution	Staining	Crazing	Softening	Delamination	Spalling
Industrial Detergent	1	No	No	No	No
Ammonia Solution	1	No	No	No	No
Hydrochloric Acid	1	No	No	No	No
Chlorine Solution	1	No	No	No	No
Anti-Freeze	1	No	Yes	No	No
Turpentine	1	No	No	No	No
Paint Thinner	1	No	No	No	No
Kerosene	1	No	No	No	No
Salt Solution	1	No	No	No	No

1 = Unaffected 2 = Superficial 3 = Considerable

7. Topcoat

Apply 1 coat of Prep Seal Primer using a 3/8 to 3/4 inch nap paint roller, ensuring complete coverage. Apply liberally on textured surfaces. Allow to dry a minimum 1 hour at 70°F (21°C) 50% RH, then proceed with application of one heavy coat of Mer-Ko Seal Topcoat using a paint roller, in a sample area using appropriate finish texture technique(s) and color(s) to achieve the desired finish. Upon approval, apply the Mer-Ko Seal Topcoat in the selected color and finish to all vertical base flashing and horizontal deck areas. Allow to dry a minimum of 2 hours at 70°F (21°C) 50% RH, then apply a second coat of Mer-Ko Seal Topcoat perpendicular to the first. Allow to dry before returning to light service; 6 to 8 hours for normal service.

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, provision must be made to vent the area created between the existing vapor barrier and the Shur Deck.
- When installing a deck system over an unheated enclosed space (e.g., garage, etc.) provision must be made to vent the area.
- Drains must be of a design suitable to receive Shur Deck system.
- Concrete substrates must have a minimum compressive strength of 3,000 psi tested by “point loading” technique.
- Shur Deck provides moderate chemical resistance. Avoid exposure to harsh chemicals or acids.
- Heavy objects can affect the decking system and result in hairline cracks at the surface of the system. Avoid placing heavy object on or dragging them across the Shur Deck surface.
- Cementitious materials should be used within 30 minutes, do not retemper.
- Always apply Prep Seal intercoat primer after the smoothing coat and between any system layers 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 Bodycoat.
- Do not leave any layer unprotected for more than 30 days prior to completing the full system installation, including 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.

CARE & MAINTENANCE

Shur Deck is designed to provide easy cleanability 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), All Purpose Cleaner, Glass & Surface Cleaner 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 Seal 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 Shur 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 Shur Deck 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), ten (10) and fifteen (15) year warranties are available depending upon product selection and project design. Contact Mer-Ko's Customer Service Department for specific warranty information.

ONE HOUR ASSEMBLY ADDENDUM

When a One Hour Fire Rating is required over a plywood substrate, the following should be added to the standard Mer-Ko Shur Deck specification under:

- **ONE HOUR FIRE RETARDANT CONSTRUCTION**
The Mer-Ko Shur Deck fire-retardant walking deck covering over 5/8" thick 15.9mm) exterior-grade plywood with 2" x 8" (51mm x 23mm) joists spaced 16 inches (0.41 m) on center, with all plywood joints blocked, may be substituted for the double wood floor described in Footnote 13 of Table 7-C of the UBC. When installed over nominal 2" x 8" joists, the design bending stress assigned to the joists shall be limited to 78 percent of the UBC described designed values.
- **ONE HOUR COMBUSTIBLE FLOOR/CEILING OR ROOF/CEILING ASSEMBLIES**
Some rated assemblies incorporate proprietary products. When designing and specifying, check the UL Fire Resistance Directory for complete details on a particular assembly. (See UL Design numbers: L501, L502, L503, L512, L514, L515, L519, L521, and L522.) 5/8" Type X gypsum board is attached directly to the bottom of the joists. Alternatively, the gypsum board may be fastened to resilient metal furring strips for improved acoustical performance.

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

Parex USA, Inc.
4125 E. La Palma Ave., Suite 250
Anaheim, CA 92807
(866) 516-0061
Tech Support: (800) 226-2424

