



Auto Deck

Waterproof Parking Deck Surfacing

TOTAL FINISHED THICKNESS

1/4" (6.35mm)

MATERIAL STANDARDS

- ASTM C109
- ASTM C794
- ASTM D2047
- ASTM D2240
- ASTM D4060
- ASTM D638
- ASTM G23
- MIL-D-3134 (F; Para. 4.7.6)

SPECIFICATION CLASSIFICATIONS

- 07 14 16 Cold Fluid-Applied Waterproofing
- 07 16 13 Polymer Modified Cement Waterproofing
- 07 18 13 Pedestrian Traffic Coatings
- 07 18 16 Vehicular Traffic Coatings
- 07 19 00 Water Repellents
- 07 55 53 Elastomeric Protected Membrane Roofing
- 07 55 56 Fluid-Applied Protected Membrane Roofing

MATERIALS NEEDED

- PUC 1000
- ARC Emulsion
- ARC Membrane Filler
- Auto Deck Waterproofing Membrane
- Fabric Type III, 10" Burlap
- Fabric Type III, 40" Burlap
- Auto Deck Emulsion
- Auto Deck Bodycoat
- Bodycoat, Rapid Set (option)
 - Bodycoat Accelerator (option)
- Mer-Thane 300SC Primer (1A:1B)
- Mer-Thane 310SF Membrane
 - Mer-Thane 310 Topcoat (option)
- Mer-Thane Aggregate RF

SUBSTRATES

Auto Deck can be installed over properly prepared concrete substrates for new construction, renovation or maintenance applications.

USES/APPLICATIONS

- Multi-Level Parking Structures/Vehicular Parking Areas
- Helipads & Commercial Ferry Decks
- Exterior Flat/Walking Roof Decks
- Recreational Roof Decks
- Transportation Vehicle & Equipment Maintenance Areas
- Marine Dry Dock & Refurbishment Areas
- Decorative Exterior Positive Side Waterproofing Applications

SYSTEM DESCRIPTION

Auto Deck is a multi-layer, cementitious and water-based, elastomeric decking and roofing system that provides seamless, synthetic-latex waterproofing membrane protection, superior durability and weatherability using a high-performance, neoprene rubber latex resin and urethane topcoat. This waterproofing membrane, membrane filler and bodycoat emulsions, all incorporate an anti-microbial component, a performance additive that inhibits the growth of mold and mildew on the membrane surface and in damp environments. This system is designed to provide superior positive side waterproofing and concrete substrate protection for areas exposed to environmental conditions (i.e., moisture and heat) and common petroleum based chemicals typically found in vehicular traffic, helipad and machine/equipment maintenance environments (e.g., oil, brake fluid, transmission fluid). The use of an appropriate Mer-Thane high-performance, urethane topcoat provides long-term durability and aesthetic appeal.

Auto Deck installs at approximately 1/4 inch (6.35 mm) finished thickness and is designed for use over properly prepared new or existing concrete substrates. Bodycoat mortar layers can be used to compensate for minor surface irregularities. In addition, sloping can be incorporated as necessary (minimum 1/4 inch per foot) with the installation of Mer-Ko Underlayment for additional protection against water pooling and to help prevent elevation problems at doorways, landings, steps, etc.

ADVANTAGES

- Seamless, monolithic waterproofing membrane system
- Excellent adhesion to sound, dry substrates
- Can be installed over new and properly prepared existing surfaces
- Maintains elastomeric properties at low temperatures
- Will not soften under extreme solar temperatures
- Resists degradation from UV, ozone, and weathering
- Superior resistance to many chemicals
- Outstanding long-term durability and performance

SKID-RESISTANCE

Additional skid-resistance can be incorporated by broadcasting additional and/or larger than specified aggregate into the first topcoat. Various sieve sizes are available depending upon the level of skid-resistance desired. Skid-resistance and degree of cleanability work inversely. The larger the aggregate size the more difficult it is to clean the finished surface.

COLORS

Auto Deck 310SF Membrane topcoat is available in Dusk Grey and Monterey Sand, 310 Topcoat is available in seven standard colors. Consult the Color Selection Guide for additional details.

INSTALLATION CONDITIONS

The Auto Deck system must not be installed if the surface or ambient temperature is below 40°F (4.4°C) or above 120°F (48.8°C), or when precipitation is expected or occurring. Recommended surface and ambient temperature is greater than 50°F (10°C) and at least 5°F above the dewpoint when installing the Mer-Thane materials.

SUBSTRATE PREPARATION

Clean the application area using a power sprayer, grinder, or shot blaster as required to produce a clean, sound substrate. The substrate surface must be clean, dry and free of dust and/or any other contaminants at the time of material application. A minimum roof deck slope of 2% (1/4 unit vertical in 12 units horizontal) is required for proper drainage. Drainage is NOT part of the deck covering system and must be provided for structurally or in the profile of an appropriate Mer-Ko Underlayment.

COVERAGES

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

Concrete Joint

Sealant.....48 to 64 LFT (14.63 to 19.5m) 10.5 oz Tube
(based on 3/16" bead)

Base Flashing

Primer Coat..... 200 ft² (18.6m²)/40 lb. bag mix
Yield 1/32" (0.8mm)

Base Flashing

Reinforced Waterproofing Membrane

Auto Deck

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

Synthetic Burlap 10"..... 300 LFT (91m)/roll

Horizontal Deck Surface

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

Auto Deck Waterproofing Membrane

1st Base Application222 ft² (20.6 m²)/5 gallon pail
Yield 15 mil (0.38mm) DFT

Fabric Type III (40" Synthetic Burlap)..... 1,000 ft² (93m²)/roll

Auto Deck Waterproofing Membrane

2nd Base Application667 ft² (62m²)/5 gallon pail
Yield 5 mil (0.13 mm) DFT

Bodycoat..... 40 to 45 ft² (3.7 to 4.2m²)/50 lb. bag mix
Yield 1/8" (3.2mm)

Mer-Thane 300SC

Primer 1,250 to 1,500 ft² (116.1 to 139.4m²)/5 gallon mix (18.9 L)
Yield 3 mil (0.08mm) DFT

Mer-Thane 310SF

Membrane Topcoat 625 ft² (58m²)/5 gallon pail
Yield 12 mil (0.3mm) DFT

(Optional Topcoat)

Mer-Thane 310 Topcoat 100 ft² (9.3m²)/1 gallon (3.8 L)
500 ft² (46.5 m²)/5 gallon pail (18.9 L)
Yield 12 mil (0.3mm) DFT

Mer-Thane Aggregate RF..... 20 lbs/100 ft² (9.07 kg/9.29 m²)

When applicable, 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.

Concrete Surfaces

Concrete surfaces must be clean, sound and have a finish equivalent to a broom finish and provide a uniform surface free of depressions and ridges. All holes, cracks and joints 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 go inside with stress relief concentration points, with a maximum spacing of 20 ft (6.1 m). Control joints are filled with Mer-Ko PUC 1000 sealant.

APPLICATION INSTRUCTIONS

Read all instructions before starting application.

1. 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

Trowel apply a primer coat of ARC Membrane Filler mixed with 1.5 to 2 gallons of ARC Emulsion to one 40 lb. bag over the entire horizontal substrate, pulling the material tight. Allow the primed areas to dry a

PACKAGING

Concrete Joint Caulking/Sealant

PUC 1000 10.5 oz tube 0.31 L/tube
12/case

Primer

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

Waterproof Membrane

Auto Deck Waterproofing Membrane 5 gallon 18.9 liter

Fabric

Synthetic Burlap 10" 300 LFT roll 91m
Synthetic Burlap 40" 1,000 ft² roll 93m²

Bodycoat

Auto Deck Emulsion..... 5 gallon 18.9 liter
Auto Deck Bodycoat Powder 50 lb bag 22.7 kg bag

Aggregate

Mer-Thane Aggregate, RF 50 lb bag 22.7 kg bag

Intercoat Primer

Mer-Thane 300SC Primer, Part A..... 5 gallon 18.9 liter
Mer-Thane 300SC Primer, Part B 5 gallon 18.9 liter

Topcoat

Mer-Thane 310SF Membrane 5 gallon 18.9 liter
(Option) Merthane 310 Topcoat 5 gallon 18.9 liter
Mer-Thane 310SF Catalyst 1/2 pint/8 oz. can 0.236 liter can
(Option) Mer-Thane Catalyst CC 1 oz. (net 0.7 oz.) vial and 1 quart
20 gram/0.95 liter can
(Option) Merthane Accelerator T 1 quart can 0.95 liter can

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.

2. Base Flashing - Reinforced Waterproof Membrane

Waterproof the flashing area by applying one thick coat of Auto Deck Waterproofing Membrane onto the primed vertical surface and onto the adjacent horizontal surface far enough to accommodate the remaining portion of 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 Waterproofing Membrane should be applied at an overall minimum 20 mils (0.51mm) DFT.

3. Horizontal Surface-Reinforced Waterproof Membrane

Waterproof the horizontal surface by applying 1 thick coat of Auto Deck 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 Type III 40" Synthetic Burlap fabric (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 side waterproofing (no pinholes). Follow with an additional coat of Waterproofing Membrane using the same methods at a minimum 5 mil (0.13mm) DFT completely covering the fabric. Waterproofing Membrane should be applied at an over all minimum 20 mils (0.51mm) DFT. Apply the membrane/fabric/membrane layers in sections working across and off the horizontal surface. 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.

4. Bodycoat

Apply Auto Deck Bodycoat mixed with 1 to 1.25 gallons of Auto Deck Emulsion to one 50 lb. bag, over the dry membrane surface in 1 or 2 applications using a trowel, producing a minimum 1/8 inch (3.2mm) Bodycoat. If two applications are used, allow a minimum of 2 hours between applications. Allow to dry a minimum of 4 hours at 70°F (21°C) 50% RH, and remove any surface irregularities (e.g., overlaps or cold joints) by sanding, using a mason's stone or trowel scraping. Remove resulting debris. Allow to dry completely (minimum 24 hours at 70°F (21°C) 50% RH), prior to the application of the Mer-Thane primer and topcoat.

5. Primer

Apply Mer-Thane 300SC Primer to the entire surface to receive the topcoat, including all vertical or sloping surfaces, curbs, cants, etc., ensuring complete coverage.

Mixing

Mix Mer-Thane 300SC Primer Part A and Part B individually prior to combining to ensure a homogeneous material. Mix ratio for Mer-Thane 300SC Primer components are always to combine 1 Part A and 1 Part B. Mix thoroughly using a mechanical mixer at slow speed (1:1 Part A to Part B).

Applying

Apply Mer-Thane 300SC Primer by brush or phenolic resin core roller at a rate of 1 gallon per 300 ft² (3.8 L/27.9m²). Allow the primer to become tack-free before applying Mer-Thane 310SF Membrane or 310 Topcoat. Mer-Thane Topcoat must be applied over the 300SC or optional 300E Primer application within 16 to 24 hours for proper adhesion [within 16 hours if the substrate temperature is 85°F (29.4°C) or above] or re-priming is required.

Mer-Thane 300SC Primer is very sensitive to heat and moisture. Higher temperatures and/or humidity will significantly accelerate the cure time and pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity will extend the cure time.

6. Topcoat

Sweep or blow the entire deck surface clean of any residual dust or debris. Mer-Thane 300SC primer, 310SF Membrane and optional 310 Topcoat should be installed when the ambient temperature is 50°F (10°C) to 100°F (38°C). Temperature should be at least 5°F above the dew point.

Mixing

Thoroughly mix the Mer-Thane 310SF Membrane using a mechanical mixer at slow speed for at least 2 minutes. Add Mer-Thane 310SF Catalyst at the rate of 1.6 oz per gallon or 8 oz (max) per 5 gallons and continue mixing until a homogeneous mixture and color is obtained. Use care when mixing to avoid air bubbles. DO NOT whip air into the mixture. This can result in pinholes, blisters, and/or shortened pot life.

Pot life is approximately 4-6 hours depending upon temperature and humidity. Excessive amounts of catalyst will reduce the physical properties and performance of the material. Excessive catalyst may result in foaming.

Optional 310 Topcoat

Mer-Thane 310 Topcoat and Pigment Paste should be thoroughly mixed individually prior to combining to ensure homogeneous material and color. While mechanically mixing the Topcoat using a mechanical mixer at slow speed, add 1 quart of Pigment Paste and thoroughly blend the components until a uniform color is obtained. Then, pour a small amount of the Topcoat into the Pigment Paste container and scrape the sides thoroughly. Pour back into the Topcoat material and again thoroughly blend the combined components, until a uniform color is obtained. Use care when mixing to avoid air bubbles.

Mer-Thane Catalyst CC can be added to the 310 topcoat to allow for normal cure time for applications during temperatures between 40°F to 50°F (4.4°C to 10°C), at the rate of 0.2 oz (min) to 0.6 oz (max) per gallon or 1 oz (min) to 3 oz (max) per 5 gallons.

PHYSICAL CHARACTERISTICS – DECK WEARING SURFACE

Abrasion Resistance	0.001 gram loss (ASTM D4060, H-22 Wheel, 1,000 gram load for 1,000 cycles)
Adhesion	> 374 psi (ASTM C794) (Burlap reinforced membrane)
Compressive Strength	3,500 psi (ASTM C109)
Elongation	0.22 ft./ft. (ASTM D638)
Indentation Characteristics	Complies (MIL-D-3134 F)
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)
Coefficient of Friction	0.08 (ASTM D2047, MIL-D-3134, Para. 4.7.6)
Solids Content	99.8% Minimum
Tensile Strength	>450 psi (ASTM D638) (Glassmat reinforced)
Thickness	1/4 in (6.35mm)
Weight	Approximately 2.0 lbs./ft ²

Accelerator T Use Instructions

Accelerator T will shorten the cure time of Mer-Thane 310SF Membrane and 310 Topcoat materials by 6 to 8 hours depending upon usage and environmental conditions. Accelerator use level is variable up to a limit of one quart per 5 gallons of material. The higher the level of addition (to the maximum limit), the faster the cure rate. Typical use levels are:

≤ 0.5 pint/gallon OR ≤ 1 quart/5 gallon pail

Mixing Accelerator into Mer-Thane Materials

Mer-Thane Accelerator T is added to the moisture-cured urethanes at the job site. Mix the membrane or topcoat material using mechanical agitation at slow speed and gradually add the accelerator. Mix for 5 minutes or until a uniform mixture and color is attained. Take care not to entrap air during mixing. Proper incorporation of the accelerator into Mer-Thane materials will allow a 1 to 3 hour pot life for application at 75°F (24°C) and 50% relative humidity.

Recoats must be applied within 8 to 12 hours of becoming tack-free.

CAUTIONS:

Excessive addition of Mer-Thane Accelerator will result in a drastic reduction of physical properties of the material which could lead to cracking and general premature degradation of the membrane. Mix and apply all Mer-Thane materials in well ventilated areas and observe normal safety precautions. Keep containers tightly sealed when not in use. DO NOT USE accelerator additive if it has been contaminated by water, detectable by a strong acid odor and darkening color.

Applying

Apply Mer-Thane 310SF Membrane or 310 Topcoat using a squeegee or phenolic resin core roller to a average film thickness of 11 mils DFT. Apply with continuous coverage to minimize lines and/or streaking. Coverage rate will vary depending upon the porosity of the substrate. Allow Mer-Thane 310SF Membrane or 310 Topcoat to cure a minimum of 16 hours and a maximum of 48 hours before proceeding with the second coat to ensure proper adhesion. Two coats are required, the second coat MUST be applied within 48 hours or Primer 300SC is required between the coats.

Mer-Thane 310SF Membrane or 310 Topcoat is very sensitive to heat and moisture. Higher temperatures and/or humidity will significantly accelerate the cure time and pot life. Use caution in batch sizes and thickness of application. Low temperature and/or low humidity extend the cure time.

Skid-Resistance

Use Mer-Thane Aggregate RF (washed, dry, rounded crystal silica sand, 16/30 mesh or larger, depending upon the skid-resistance requirements. Minimum hardness must be 6.5+ Mohs).

Broadcast Mer-Thane RF aggregate into the first wet Mer-Thane 310SF Membrane or 310 Topcoat immediately after application at a minimum rate of 20 lbs/100 ft² (9.07 kg/9.29 m²) or as required to achieve the desired skid-resistance. Allow the Mer-Thane 310SF Membrane or 310 Topcoat to cure a minimum of 16 hours and a maximum of 48 hours before proceeding with the second Topcoat application to ensure proper adhesion. Remove any loose aggregate before applying the second topcoat. Additional topcoat material may be required, based on usage and application conditions.

Topcoat - Faster Cure

Mer-Thane Accelerator T can be used in conjunction with 310SF Catalyst or Catalyst CC with 310 Topcoat to shorten the cure time of the Mer-Thane 310SF Membrane or 310 Topcoat.

Pot life when Accelerator T is used is approximately 1-3 hours depending upon temperature, humidity and the amount of Accelerator used. Excessive amounts of Accelerator will reduce the physical properties and performance of the material. Accelerator T can reduce the cure time to 6-8 hours per coat. Recoats MUST occur within 8-12 hours of the surface becoming tack-free or an application of Primer 300SC is required.

CAUTIONS & LIMITATIONS

- Mer-Ko waterproof deck systems are designed for professional installation.
- System warranties require installation by currently listed applicators.
- Not suitable for applications where chained or studded tires may be used.
- Not designed for heavy steel wheeled traffic.
- 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 Auto Deck system.
- When installing a deck system over an unheated enclosed space (e.g., soffit, ceiling, etc.) or installed with a metal pan (e.g., garage, etc.) provision must be made to vent the area.
- Drains must be of a design suitable to receive Auto Deck 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 intercoat primer between any system layers other than Mer-Thane 300SC primer and 310SF Membrane or 310 Topcoat that have cured for more than 72 hours.
- The Auto Deck Waterproofing Membrane should not be exposed for more than 72 hours prior to being covered with the Bodycoat. Do not leave any other layer unprotected for more than 30 days prior to completing the full system installation, including final topcoat application.

- Mer-Thane containers that have been opened should be used within 48 hours. The product is moisture-reactive and will gel or set up when exposed to moisture in the atmosphere. A polyethylene sheet must be used as a protective blanketing prior to re-sealing the lid on a partially used container. Keep the lid tightly sealed when the material is not in use. Before using Mer-Thane products, read all container labels, MSDS, application instructions and storage and handling information carefully. Applicators should wear an approved respirator, protective glasses, clothing and gloves. Avoid contact of material with skin or eyes and avoid breathing vapors. Mix and apply materials in well ventilated areas and observe normal safety precautions. Mer-Thane materials are classified as corrosive material and can cause irritation in prolonged exposure. Wash skin thoroughly with soap and water if product(s) contact skin. Consult the Material Safety Data Sheet for additional information and precautions. Protect all finished surfaces that are not intended to receive the deck coating system materials.

CARE & MAINTENANCE

Auto 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, or similar products. 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 unapproved solvents to remove contaminants as this may cause damage to the deck surface. Test all cleaners and methods on an inconspicuous area to ensure compatibility. The colored 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 5 years for best results, or per the schedule listed on the warranty issued. Refer to Urethane System Care & Maintenance Instructions for more detailed information on proper care and maintenance.

STORAGE & HANDLING

Store all Auto Deck materials off the ground in a dry environment at temperatures between 40°F and 100°F (4.4°C and 38°C). Store all Mer-Thane materials in a dry environment at temperatures between 65 to 70°F (18 to 21°C). Do not store at high temperatures or in direct sunlight. Do not allow materials to freeze. All materials should be stored in compliance with local fire and safety requirements. Always wear proper safety equipment, including an approved respirator, eye protection and gloves when mixing and/or applying these products. Do not breathe vapors. Do not keep opened containers in confined spaces. Consult published OSHA (Occupational Safety and Health Administration) regulations for additional information and compliance information.

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.

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