



Mer-Thane 310SF

Elastomeric Urethane Vehicular Decking System

MINIMUM DRY FINISHED THICKNESS

40 mils (1.0mm)

MATERIAL STANDARDS

- ASTM D2369-81
- ASTM D2697
- ASTM D624
- ASTM D412
- ASTM D2240

SPECIFICATION CLASSIFICATIONS

- 07 14 16 Cold Fluid-Applied Waterproofing
- 07 35 00 Elastomeric Deck Coatings
- 07 18 13 Pedestrian Traffic Coatings
- 07 19 00 Water Repellents
- 07 55 53 Elastomeric Protected Membrane Roofing
- 07 55 56 Fluid-Applied Protected Membrane Roofing

MATERIALS NEEDED

- Mer-Thane 300SC Primer (A:B)
- Mer-Thane 300E Primer (A:B) (option)
- Mer-Thane 500 Waterproofing Membrane*
- Mer-Thane Fiber Tape*
- Mer-Thane 310SF Waterproofing Membrane
- Mer-Thane 310SF Catalyst
- Mer-Thane Aggregate RF

**As needed for crack & joint treatment.*

SKID-RESISTANCE

Skid-resistance is incorporated into the 310SF system by broadcasting Mer-Thane Aggregate RF (washed, dry, rounded, crystal silica sand, 16/30 mesh, 6.5+ Moh's minimum hardness) into the second membrane application. Skid-resistance and degree of cleanability work inversely. The larger the aggregate size the more difficult it is to clean the finished surface.

SYSTEM DESCRIPTION

Mer-Thane 310SF is a high-performance, solvent-free, low odor, moisture cured, cold fluid applied, elastomeric, aromatic urethane waterproofing membrane system. This easy-to-use, high solids system provides superior adhesion, abrasion and impact resistance, flexibility, chemical resistance and weatherability. Mer-Thane 310SF is specifically engineered to protect concrete surfaces from deterioration due to water penetration, waterborne chlorides and exposure to common chemicals and biodegradable materials found in vehicular traffic applications. It is engineered to seal the substrate from moisture penetration during freeze-thaw cycling or high temperature/high humidity thermal cycling.

Mer-Thane 310SF installs at a minimum 40 mils (1.0mm) DFT and is designed for use over properly prepared concrete substrates. This system can be applied at flashing areas, drains, trenches, curbs, vertical wall terminations and other surface transition areas to provide seamless waterproofing protection.

USES/APPLICATIONS

- Commercial & Residential Vehicular Traffic Areas
- Walkways & Breezeways
- Marine Decks
- Rooftop Sports Decks
- Over Occupied Space

ADVANTAGES

- Seamless, monolithic membrane
- Solvent-free
- Low odor
- Excellent adhesion to dry sound substrates
- Can be installed over new or existing surfaces
- Maintains elastomeric properties at low temperatures
- Elastomeric properties help compensate for thermal building movement
- Resists degradation from UV, ozone and weathering
- Superior chemical resistance to oils, fuels and many chemicals
- Outstanding long-term durability and performance
- Meets California VOC & SCAQMD requirements

SUBSTRATES

Mer-Thane 310SF is installed over properly prepared concrete substrates.

COLORS

Mer-Thane 310SF is available in Dusk Grey and Monterey Sand. Consult the Color Selection Guide for additional color details. Custom colors are available upon request.

INSTALLATION CONDITIONS

The Mer-Thane 310SF system should be installed when the surface and ambient temperatures are above 50°F (10°C) and below 100°F (37.8°C). Temperature should be at least 5°F above the dewpoint. Do not install during inclement weather, when precipitation is occurring or expected within 24 hours.

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

COVERAGES

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

Base Flashing

Primer Coat

Mer-Thane 300SC Primer.....250-300 ft² (23.2-27.9 m²)/gallon (3.8 L)
Yield 3 mil (0.08mm) DFT

Mer-Thane 300E Primer250-300 ft² (23.2-27.9 m²)/gallon (3.8 L)
Yield 3 mil (0.08mm) DFT

Joint & Crack Treatment

Mer-Thane 500
Waterproofing Membrane.....33 ft² (3 m²)/gallon (3.8 L)
Yield 20 mil (0.5mm) DFT

Mer-Ko Fiber Tape..... 4 in x 150 LFT/roll
101.6mm x 45.7m/roll

Base Flashing – Waterproofing Membrane

Mer-Thane 310SF
Waterproofing Membrane.....100 ft² (9.3 m²)/0.75 gallons (2.8 L)
Yield 12 mil (0.3mm) DFT

Horizontal Deck Surface

Primer Coat

Mer-Thane 300SC Primer.....250-300 ft² (23.2-27.9 m²)/gallon (3.8 L)
Yield 3 mil (0.08mm) DFT

Mer-Thane 300E Primer 250-300 ft² (23.2-27.9 m²)/gallon (3.8 L)
Yield 3 mil (0.08mm) DFT

Mer-Thane 310SF

Waterproofing Membrane

First Application..... 100 ft² (9.3 m²)/1 gallon (3.8 L)
Yield 16 mil (0.4mm) DFT

Turn Radii (Optional)100 ft² (9.3 m²)/1.0 gallon (3.8 L)
Yield 16 mil (0.4mm) DFT

Second Application 100 ft² (9.3 m²)/1 gallon (3.8 L)
Yield 16 mil (0.4mm) DFT

Mer-Thane Aggregate RF..... 20 lbs/100 ft² (9.07 kg/9.3 m²)
Turn Radii Aggregate..... 20 lbs/100 ft² (9.07 kg/9.3 m²)

Mer-Thane 310SF

Waterproofing Membrane

Topcoat Application.....133 ft² (12.4 m²)/1 gallon (3.8 L)
Yield 12 mil (0.3mm) DFT

TOTAL FINISHED THICKNESS 40 mils (1.0mm) DFT

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 Xylene or MEK. Do not use copper perimeter flashings. Stainless steel requires scuffing with the use of 100-120 grit sand paper prior to cleaning.

Concrete surfaces must have a finish equivalent to steel troweling with a fine hair brooming. The surface must be clean, sound and provide a uniform surface free of depressions and ridges. 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).

Surface imperfections, if left untreated, will be noticeable in the finished application. Concrete not meeting the above requirements should be prepared and properly abraded by shotblasting and/or hydro-blasting (10,000-20,000 psi). If water is used, allow to dry completely. Neat cement sacking is not an acceptable surface preparation.

PACKAGING

Primer

Mer-Thane 300SC Primer Part A.....5 gallon pail..... 18.9 liter pail
Mer-Thane 300SC Primer Part B5 gallon pail..... 18.9 liter pail
Mer-Thane 300E Primer Part A.....1&5 gallon pail.....3.8&18.9 liter pail
Mer-Thane 300E Primer Part B.....1&5 gallon pail.....3.8&18.9 liter pail

Waterproof Membrane

Mer-Thane 310SF Waterproofing Membrane.5 gallon pail..... 18.9 liter pail

Aggregate

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

Topcoat

Mer-Thane 310SF Waterproofing Membrane.5 gallon pail..... 18.9 liter pail

Crack Treatment

Mer-Thane 500 Waterproofing
Membrane, Part A.....1&5 gallon pail.....3.8&18.9 liter pail
Mer-Thane 500 Waterproofing
Membrane, Part B.....1 quart & 1 gallon pail.....0.95 & 3.8 liter pail
Mer-Ko Fiber Tape.....4in x 150..... 101.6mm x 45.7
LFT roll meter roll
Mer-Thane 310SF Catalyst..... 1/2 pint/8 oz.....0.236 liter can

Accelerator

(Optional) Mer-Thane Accelerator T1 quart can..... 0.95 liter can

APPLICATION INSTRUCTIONS

While material application is in process, all other trade work in the area should be stopped during installation and 72 hours after the application is complete. Read all instructions before starting application.

1. Primer Coat

Prime the entire deck surface to receive the coating, including all necessary flashings, vertical or sloping surfaces, curbs, cants, parapets, etc.

Mixing

The mixing ratio for Mer-Thane 300SC Primer is one Part A to one Part B. Mer-Thane Primer Parts A and B should be thoroughly mixed individually prior to combining to ensure a homogeneous material. The combined components should be thoroughly mixed using a mechanical mixer at slow speed for 1 to 2 minutes until a uniform color is achieved.

Applying

Apply Mer-Thane 300SC Primer using a brush or phenolic resin core roller. Allow Mer-Thane Primer to become tack free prior to applying the coating. Do not mix more material than can be used for the appropriate primers pot life.

CRACK & JOINT TREATMENT

2. Concrete Surfaces

Apply a "NEAT" mixture of Mer-Thane 500 Waterproofing Membrane reinforced with Mer-Ko Fiber Tape around all pipes and drains.

All control joints in the concrete substrate must be clean and open a minimum of 1/8 inch. Stripe coat all concrete control joints, and sheet metal termination/transitions and any other openings with a "NEAT" mixture of Mer-Thane 500 Waterproofing Membrane and reinforce with Mer-Ko 4" Fiber Tape embedded for a distance of 2 inches on both sides.

3. Primer Flashing

Apply Mer-Thane primer to the properly prepared flashing using a brush or or phenolic resin core roller at a thickness of 3 mils DFT. Primer must dry tack free before applying the waterproof membrane. Do not mix more material than can be used for the appropriate primers pot life.

4. Primer Horizontal Surface

Apply Mer-Thane 300SC or 300 to the properly prepared surface using a brush or or phenolic resin core roller at a thickness of 3 mils DFT. Primer must dry tack free before applying the 300SF waterproofing membrane. Do not mix more material than can be used for the appropriate primers pot life.

5. Waterproofing Membrane – First Application

Mixing

Mix Mer-Thane 310SF Catalyst provided into the 310SF Membrane material using a mechanical mixer until a homogeneous mixture and color is obtained. Mer-Thane 310SF Catalyst mixing ratio is 1/2 pint/8 oz. per 5 gallons. Pot life is approximately 4-6 hours depending upon temperature, humidity and the amount of catalyst used.

No more than 1/2 pint/8 oz. of 310SF Catalyst should be added to the 310SF membrane material. Excessive amounts of Catalyst will reduce the physical properties and performance of the material. Excessive catalyst may result in foaming.

Use care when mixing to avoid air bubbles. DO NOT entrain air into the mixture. This can result in pinholes, blisters, and/or shortened pot life.

Applying

Mer-Thane 310SF Waterproofing Membrane is applied to the perimeter flashing and to the deck surface using a squeegee or notched trowel at 16 mil DFT. Apply with continuous coverage to minimize lines and/or streaking, back roll as necessary. Coverage rate will vary depending on the porosity of the substrate. Allow Mer-Thane 310SF Waterproofing Membrane to cure a minimum of 16 hours and a maximum of 48 hours at 70°F (21°C) 50% RH before proceeding with additional coats to ensure proper adhesion.

(OPTIONAL) Turn Radii Waterproofing Membrane

Apply Mer-Thane 310SF Waterproofing Membrane in the same manner as the first, at 16 mil DFT. Apply with continuous coverage to minimize lines and/or streaking, back roll as necessary. Then, immediately broadcast Mer-Thane Aggregate RF into the wet material at a rate of 20 lbs/100 ft² (9.07 kg/9.3 m²) or as required to achieve a skid-resistant finish. Ensure complete coverage (to refusal). Allow to cure a minimum of 16 hours and a maximum of 48 hours at 70°F (21°C) 50% RH. Then, remove all loose aggregate, dust or debris before proceeding with succeeding coats to ensure proper adhesion.

6. Waterproofing Membrane – Second Application

Apply Mer-Thane 310SF Waterproofing Membrane in the same manner as the first 16 mil DFT. Apply with continuous coverage to minimize lines and/or streaking, back roll as necessary.

Aggregate

While the Mer-Thane 310SF Membrane material is still wet, immediately broadcast Mer-Thane Aggregate RF (washed, dry, rounded, crystal silica sand, 16/30 mesh depending upon the skid-resistance requirements, minimum hardness 6.5+ Moh's) into the wet material at a rate of 20 lbs/100 ft² (9.07 kg/9.3 m²) or as required to achieve a skid-resistant finish. Ensure complete and uniform coverage (or to refusal). Allow a minimum 16 hours cure time and a maximum of 48 hours before proceeding. Then, remove all loose aggregate, dust or debris. Immediately proceed with the topcoat application.

7. Waterproofing Membrane – Topcoat Application

Apply Mer-Thane 310SF Waterproofing Membrane using a phenolic resin core roller at 12 mil DFT. Apply with continuous coverage to minimize lines and/or streaking, back roll as necessary. Allow to cure completely before returning to service.

Sloped or pitched surfaces may require additional material application to achieve the desired thickness. Mer-Thane Accelerator T can be added to any of the 310SF Membrane applications to allow for a shortened cure time for rehabilitation or repair projects. Refer to the Accelerator Use Instructions provided within this application guide.

Mer-Thane 310SF Waterproofing Membrane will be dry to touch within 16 hours (at 70°F/21°C, RH 50%). Light foot traffic can be introduced a minimum of 24 hours after application. Return to full service after a minimum 72 hour cure, 96 hours minimum for heavy vehicular traffic.

PHYSICAL CHARACTERISTICS - MEMBRANE

VOC Content	2 g/L
(ASTM D2369-81)	
Hardness	75-85
(ASTM D2240, Shore A)	
Tear Resistance	300-400 PLI
(ASTM D624, Die C)	
Elongation	450-550%
(ASTM D412)	
Solids Content (% by Weight)	99.8%
(ASTM D2369)	
Solids Content (% by Volume)	99.8%
(ASTM D2697)	
Specific Gravity	1.2
Tensile Strength	1,900-2,500 psi
(ASTM D412)	

Accelerator T Use Instructions

Accelerator T will shorten the cure time of Mer-Thane 310SF membrane material 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 base membrane 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 membrane 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.

CAUTIONS & LIMITATIONS

- The substrate surface must be structurally sound, clean, dry and free of dirt, dust, oil, grease, paint or other contaminants at the time of material application.
- Do not install during inclement weather, when precipitation is occurring or expected within 24 hours.
- Mer-Ko waterproof deck systems are designed for professional installation.
- System warranties require installation by currently listed applicators.
- Not designed for heavy steel wheeled traffic.
- Not suitable for applications where chained or studded tires may be used.
- Not suitable for below-grade, split slab, or slab-on-grade without on-grade vapor barrier
- Not for use on sandwich slabs without a vapor barrier or with insulation, slabs over unvented metal pans, suspended pool decks, swimming pools, magnesite, lightweight concrete, asphalt surfaces or asphalt overlays.
- Concrete substrates must have a minimum compressive strength of 3,000 psi tested by "point loading" technique.
- The moisture content of the substrate should be checked and approved by a qualified professional prior to installation.
- When installing a deck system over an unheated enclosed space (e.g., garage, etc.) provision must be made to vent the area.
- 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.
- Use extra caution in protecting surfaces not to be coated when using spray application methods. Windy conditions or overspray can damage surrounding surfaces.

CARE & MAINTENANCE

Mer-Thane 310SF system is designed to provide easy cleanability and low-maintenance.

The colored topcoat is designed to resist direct exposure to environmental elements and withstand normal wear. To extend the life of the wearing surface to its maximum potential, establish a regular cleaning schedule. Use a mild detergent (e.g. Trisodium Phosphate) and water or pressure washing to remove tough stains and contaminants. Use a stiff broom or scrub brush to remove any contaminants on the surface of the deck. Rinse thoroughly with clean water after scrubbing. Never use alcohol or petroleum based products.

Decks should be re-sealed every 5 years for best results, or per the schedule listed on the warranty issued. (**Note: The functionality of the Mer-Thane 310SF system is not impacted by aesthetic imperfections.**) Allow the deck surface to dry prior to resealing, then prime and apply a fresh coat of Mer-Thane 310SF Topcoat in the desired color. Refer to Mer-Thane's Care & Maintenance Instructions for more detailed information on proper care and re-sealing.

STORAGE & HANDLING

Store all Mer-Thane materials in a dry environment at temperatures between 65 to 70°F (18 to 21.1°C). All materials should be stored in compliance with local fire and safety requirements. Do not store at high temperatures or in direct sunlight. Do not allow uncured materials to freeze. Store materials in tightly closed original containers, off the ground, on plywood or non-asphaltic insulation board. Avoid moisture contamination. 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

The shelf life is one (1) year from the date of manufacture in the original, unopened container when the material is properly stored.

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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