SILCOR® 900MP (US Version)

Rapid-set, spray-applied, liquid waterproofing membrane for podium decks, green roofs and terraces

Product Description

SILCOR®900MP is a premium performance two-component spray-applied seamless waterproofing membrane that cures within 2 minutes to form a high-strength, elastomeric, and fully-bonded waterproof membrane. SILCOR®900MP is extremely durable with excellent wear and chemical resistance and does not normally require additional protection against mechanical damage.

Product Advantages

- **Fast Cure** – will accept foot traffic after 2 mins.
- **Seamless** – continuous waterproofing integrity.
- **Productivity** – spray-applied for maximum coverage per day.
- **Fully bonded** - resists water tracking beneath the membrane
- **Non-flammable** – 100% solids. Solvent free.
- **Low Odor** – low VOC.
- **Elastomeric** – accommodates movements and bridges concrete shrinkage cracks.
- **Durable** – tough with excellent wear and damage resistance.
- **Chemical Resistance** – excellent fuel and chemical resistance.

Principal Applications

New and remedial waterproofing for:
Design

SILCOR®900MP spray-applied waterproofing system is designed for use as a fully adhered waterproofing layer on new and existing elevated structural decks. Structural decks should be sloped to drain a minimum of 1/8 in./ft.

System Components

- **SILCOR® 900MP** – premium performance two component, spray-applied seamless waterproofing membrane
- **SILCOR® Primer EPF** – two-component epoxy primer (for temperatures 40°F-80°F)
- **BITUTHENE® Liquid Membrane** – two component elastomeric liquid applied detailing accessory
- **PREPRUFE® Tape** – reinforced pressure sensitive tapes for detailing

Installation

SILCOR®900MP liquid waterproofing should only be applied by experienced, trained contractors. Effective liquid waterproofing application starts with a good surface preparation of the substrate.

Surface Preparation

All grease, curing agents oil or other contaminants that can affect adhesion of the membrane to the surface need to be removed prior to application of SILCOR®. Grease, dirt and grime can be removed using high pressure water cleaning provided sufficient time is allowed for the residual humidity and water to dissipate. Sandblasting is not effective on contaminated concrete.

After cleaning, the surface should be prepared to open the pores and make the surface ready to accept the primer. The preferred and most common method is sand or grit blasting. Surface preparation for specific substrates is discussed below.

Concrete should be allowed to cure for at least 28 days. Concrete moisture content must be less than 5% prior to application of the SILCOR® primers. Moisture content must be checked using appropriate meters and test methods.
Priming

Priming should be completed prior to applying SILCOR®900MP.

- Add the complete B-component to the A-component to assure correct mixing ratio.
- Mix with a slow turning mixer (less than 300 rpm) mix until a solid, streak free color is achieved in order to obtain a homogeneous mixture.
- The primer should be applied to the surface by brush or roller immediately after mixing.
- Pour the primer onto the surface in a zigzag trail.
- After pouring onto the surface, the primer should be evenly distributed onto the surface with foam rubber squeegees and rolled into the surface, within the pot life, using Perlon rollers.
- The primer should be evenly distributed at 10 mils thickness with complete coverage of the surface.
- If the surface is very porous and absorbs primer leaving an open surface, additional primer must be added in this area within the pot life or recoat time of the primer.
- The recoat window of the primer is typically up to 24 hours. This window is influenced by ambient temperature and humidity. When the recoat window time is exceeded before the membrane is applied, re-apply a new layer of the SILCOR® Primer.
- The recoat window of SILCOR® Primers can be extended by broadcasting dry quartz silica sand into the primed surface. Broadcast sand to full saturation. Use sand of 16/30 mesh for coating thickness of up to 80 mils. For larger coating thicknesses larger grain sizes can be used. Remove surplus sand and partially bonded particles with a scrubber after the primer is dry to the touch.

For complete instructions and descriptions on SILCOR®Primers, consult the separate technical data sheets.

Spray Equipment and Temperature

SILCOR® membranes are rapid setting high performance materials designed to be used with high-pressure proportioners such as Graco® Reactor E-XP2, H-XP2, and H-XP3 or similar high-pressure plural component spraying equipment. Both RESIN and ISO components are supplied directly from drums with diaphragm or T-pumps ensuring continuous flow of material to the machine. Due to the high reactivity of the system, components are kept separately until they reach the spray gun mixing chamber. The components are designed for a 1:1 mixing ratio by volume. A high yield air compressor is needed to operate the pumps and the spray equipment. See your manufacturer equipment requirements for appropriate air compressor specification and settings.

Ambient application temperature must be between 40°F and 90°F. Substrate temperature should be between 40°F and 175°F and exceed the dew point temperature by a minimum of 5°F.

SILCOR® Resin components are pigmented and need to be mixed before application with an air driven cork-screw type mixer or similar. Mix at low speed to avoid air entrapment until a homogeneous color is obtained. After mixing, it is recommended to keep the blend agitated using a slow turning mixer in the drum. SILCOR® Isocyanate components are supplied ready to use and do not need pre-mixing.

They are moisture sensitive and need to be protected from all sources of moisture.
Spray-Application

SILCOR® membranes are sprayed multi-directional (up-down / left right) in several coats to obtain uniform coverage and membrane thickness. Hold the gun perpendicular to the substrate at a distance of 24 to 35 inches. When applying, care is required at the overlap to ensure an even coverage of the overlap area. Spray applied SILCOR® membranes are applied at a minimum thickness of 80 mils. In order to achieve uniform membrane thickness, a smooth and constant gun speed is required by the gun operator.

Detailing

For complete detailing instructions, refer to SILCOR®900MP standard details.

Chemical Resistance

SILCOR®900MP offers protection to a wide range of chemicals. Contact GCP for specific details and recommended applications.

Limitations

Apply SILCOR®900MP directly to structural surfaces. Do not apply SILCOR®900MP over lightweight insulating concrete. Insulation, if used, must be installed over the membrane.

Warranties

GCP and trained contractors can provide warranties for individual projects. Contact GCP for further details.

Health and Safety

For SILCOR®900MP, SILCOR®Primer EPF, and SILCOR®Primer EPS read the product label and Safety Data Sheet (SDS) before use. SDS’s can be obtained from GCP Applied Technologies.

Supply

<table>
<thead>
<tr>
<th>UNIT OF SALE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SILCOR® 900MP (Resin)</td>
<td>400 lb – 55 gal drum</td>
</tr>
<tr>
<td>SILCOR® 900MP (Iso)</td>
<td>495 lb – 55 gal drum</td>
</tr>
<tr>
<td>SILCOR® Primer EPF (Part A)</td>
<td>7.1 lbs pail – approx. 0.7 gal</td>
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<tr>
<td>SILCOR® Primer EPF (Part B)</td>
<td>4.0 lbs pail – approx. 0.5 gal</td>
</tr>
<tr>
<td>SILCOR® Primer EPS (Part A)</td>
<td>12.1 lbs pail – approx. 1.5 gal</td>
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<tr>
<td>SILCOR® Primer EPS (Part B)</td>
<td>9.9 lbs pail – approx. 0.9 gal</td>
</tr>
<tr>
<td>Storage</td>
<td>Store between 40°F &amp; 80°F</td>
</tr>
<tr>
<td>Shelf life – SILCOR® 900MP</td>
<td>12 months</td>
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## Physical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Test Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tensile Strength</td>
<td>4090 psi</td>
<td>ASTM D412</td>
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<tr>
<td>Tear Resistance</td>
<td>487 lb/in.</td>
<td>ASTM D751</td>
</tr>
<tr>
<td>Adhesion to concrete</td>
<td>&gt; 479 psi</td>
<td>ASTM D4541</td>
</tr>
<tr>
<td>Low Temperature crack bridging</td>
<td>Pass</td>
<td>ASTM C836</td>
</tr>
<tr>
<td>Shore Hardness</td>
<td>91A</td>
<td>ASTM 2240</td>
</tr>
<tr>
<td>Abrasion Resistance (Taber Wear index)</td>
<td>255 mg²</td>
<td>ASTM D4060</td>
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### Footnotes:
1. Tested on prepared, primed, and sand blended concrete or steel.
2. H18/1000 cycles/1000g

## Liquid Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Typical Value</th>
<th>Test Method</th>
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<tbody>
<tr>
<td>Viscosity - Resin</td>
<td>400-600 cps¹</td>
<td>Brookfield Viscometer</td>
</tr>
<tr>
<td>Viscosity - Iso</td>
<td>800-1200 cps¹</td>
<td>Brookfield Viscometer</td>
</tr>
<tr>
<td>Solids Content</td>
<td>100%</td>
<td>ASTM D1644</td>
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<tr>
<td>Density (Resin, Iso)</td>
<td>8.6 lb/gal</td>
<td>ASTM D4541</td>
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<tr>
<td></td>
<td>9.2 lb/gal</td>
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<tr>
<td>Coverage Rate (80 mil thickness)</td>
<td>16.4 ft²/gal</td>
<td>internal</td>
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<tr>
<td></td>
<td>1800 ft²/kit</td>
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<tr>
<td>Gel time</td>
<td>5 sec¹</td>
<td>internal</td>
</tr>
<tr>
<td>Tack free time</td>
<td>8 sec¹</td>
<td>internal</td>
</tr>
<tr>
<td>Trafficable (foot traffic)</td>
<td>2 mins.¹</td>
<td>internal</td>
</tr>
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### Footnotes:
1. Measured at 77°F

All declared values shown in this data sheet are based on test results determined under laboratory conditions and with the product sample taken directly from stock in its original packing without any alteration or modification of its component parts.
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