

SILCOR[®] 880 SVR System

Elastomeric coating as an electrical insulation in critical structures and civil works.

Product Description

Elastomeric coating providing excellent waterproofing and electrical insulation properties.

Unique formulation to form an impenetrable barrier to electrical currents, at the same time resistant to water, chemicals and wear.

Features

- SILCOR[®] 880 SVR System is a system consists of a hand-applied coating SILCOR VR80 and a spray-applied SILCOR 880 SVR as the base membrane.
- The cured elastomer has high substrate adhesion plus excellent resistance to tear, puncture, chemicals, water and abrasion.

Application Equipment

SILCOR 880 SVR is designed for application through high-pressure, plural component spray equipment capable of processing polyurea coatings, such as electrical motor pump driven machine and hydraulic pump driven machine. SILCOR 880 SVR polyamine component must be agitated before and during use. The isocyanate component does not require agitation.

Typical machine spray settings required for SILCOR 880 SVR System application are:

Material Temperature: 20 °C to 25 °C

Main Heater Temperature: 60 °C to 75 °C

Line Heater Temperature: 60 °C to 75 °C

Spray Pressure: 2200 to 3000 psi

Round pattern spray gun mix chambers will minimize overspray produced considerably.

This product may also be suitable for 1:1 by volume, low-pressure dispensing machines fitted with static mix spray heads. Suitability should be determined by the user prior to application.

Physical properties

PROPERTY	GCP SILCOR 880 SVR SYSTEM TYPICAL VALUE	TEST METHOD
Total Thickness	2.5mm (0.6mm Silcor VR 80 and 1.9mm Silcor SVR)	
Volume Resistivity	> Min 5000 x 10 ¹¹ Ω-cm	ASTM D257
Tensile Strength	>5000 kPa	ASTM D412

Elongation	>400%	ASTM D412
Puncture Resistance	≥95kgf	ASTM D5602
Puncture Resistance	≥900N	ASTM E154
Adhesion to Primed Concrete	≥900kPa	ASTM D7105
Adhesion to Primed Concrete	≥2MPa	ASTM D7234
Shore A Hardness	80 ± 5	ASTM D2240

Application Guidelines

Substrate

Substrates must be clean, dry, free of curing compounds, oil, grease, solvent or other contaminants. Moisture content of concrete must be below 5%. Concrete should be cured 28 days and render 7 days.

Environmental Conditions

The following conditions must be achieved prior to and maintained during SILCOR 880 SVR System application.

Ambient Temperature: 5 °C to 45 °C

Substrate Temperature: 10 °C to 60 °C

Relative Humidity: 85% maximum

Dew Point: 3 °C below substrate

Approximate Wind Speed 10 knots maximum

Surface Preparation and Application

See project-specific Application Method Statement (AMS) for detailed requirements. Generally, for concrete substrates, use wet, wet-abrasive e.g. high pressure water jet, rotary head water blaster or dry-abrasive blasting e.g. mechanical grinding to remove laitance, etc.

Patch concrete defects using high strength (minimum 25MPa), non-shrink, repair mortar and allow to cure fully.

Fill all joints, cracks, gaps and form angle fillets in internal corners or penetrations with SILCOR LM PU sealant.

Blast or mechanically clean steel substrates to a 90µm surface profile.

Apply SILCOR VR80 on the substrate as a primer at a minimum dry-film thickness of 0.6mm/m² with a minimum consumption of 0.6Kg/m², dependent on substrate condition, application technique and weather. More coats is required for porous concrete before application of SILCOR 880 SVR. Recommended moisture content <5% based on ASTM F2659. Application to highly porous substrates while substrate temperature is increasing may result in concrete outgassing and pinhole formation. This can be reduced or prevented by priming substrates in the late afternoon or evening, when concrete temperature is stable or falling.

Apply SILCOR 880 SVR in one or more passes to the required dry film thickness. Typically a DFT of 1.9mm Silcor 880 SVR membrane and a min 0.6mm DFT Silcor VR80 primer (Total System DFT min 2.5mm) is required for electrical insulation applications specifying a volume resistivity of $5000 \times 10 \text{ ohm-cm}$. 2.09kg of SILCOR 880 SVR provides coverage of 1 m^2 at 1.9mm coating thickness. Allow for processing losses, over-spray, etc depending on surface and ambient conditions.

Specified minimum DFT required will be detailed in GCP's project-specific AMS.

Surfacing

Where colour stability is required in sun-exposed applications, apply our aliphatic, UV-stable topcoat, SILCOR Top Coat 80 where colour stable protection and a non-slip finish is required.

Repairing

Area smaller than 1 m^2 can be repaired by re-application of SILCOR 880 SVR System as detailed in the relevant Application Method Statement. In space-restricted areas where spray application is not practical, SILCOR 880 HVR (Hand-applied) systems (with SILCOR Top Coat 80 finish where UV stability or non-slip finishes are required) can be used, in consultation with your local GCP representative.

Out-gassing and pin-hole formation due to poorly compacted, high porosity or wood float finished concrete after spray application, can be spot patch/touch up the pin-holes with SILCOR LM PU Sealant or epoxy filler and recoat with SILCOR 880 SVR System.

Packaging

SILCOR 880 SVR Membrane
(200Kg Polyol + 210Kg ISO) 410Kg per set

SILCOR VR 80
(20Kg Base + 10Kg Hardener) 30Kg per set

Clean Up

Clean up liquid leakage or spills before hardening occurs using solvents such as xylene, MEK or acetone.

Storage

SILCOR 880 SVR System should be stored $< 25^\circ \text{C}$, $< 60\% \text{ RH}$. Drums/pails must remain tightly sealed against moisture ingress. Under these storage conditions the materials will have a shelf life of 12 months. Storage at temperatures other than detailed can result in degradation and crystallisation in the drum, rendering the materials unusable. Ingress of humidity or water into the drums during storage or use will also make the materials unusable.

Product Risk

SILCOR 880 SVR System is not intended for use by other than experienced operators. The data herein requires experience and knowledge to attain correct interpretation and outcome. The user must undertake all relevant tests to determine the suitability for the intended application, as such determination of fitness of purpose for product use is the sole responsibility of the purchaser.

Handling

Refer to SILCOR 880 SVR System Safety Data Sheet (SDS).

Operators must have full awareness of the material safety requirements before any work is undertaken.

SILCOR 880 SVR System polyamine component is a mild irritant. Avoid contact with skin or eyes. SILCOR 880 SVR System isocyanate component contains methylenebisphenyl diisocyanate (MDI). It is an irritant and allergic sensitizer to skin and respiratory systems. Avoid contact with skin or eyes. Avoid breathing vapour or spray aerosol.

SILCOR 880 SVR System system spray application must occur in areas with adequate ventilation. Suitable organic vapour respirators or air-fed hoods must be worn during spray operations. Other required PPE includes butyl or nitrile gloves, safety goggles or full-face shield, coveralls and chemically-resistant safety boots.

Health and Safety

In case of spills and accidents, refer to the SDS of the products or when in doubt contact your local GCP representative.

Always wear protective clothing, gloves and protective goggles when handling chemical products.

For full information, consult the relevant SDS.

Project Specification

GCP Applied Technologies offers a comprehensive package of quality and proven systems to meet different project and application needs. Contact your local GCP representative for further information.

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