



HIGHWAY • AIRPORT • BRIDGE

# SILSPEC® RE-DECK *Bridge and Pavement Wearing Course*

## DESCRIPTION

SILSPEC® RE-DECK is a solvent free, moisture tolerant, low viscosity epoxy/urethane binder and adhesive meeting the requirements of ASTM C-881, Type III, Grade I, Classes B & C.

## USE

SILSPEC® RE-DECK is used primarily for bonding skid-resistant overlays and high friction surfaces to bridges and elevated slabs and as a low modulus binder for epoxy mortars where thermal change is a consideration. The material can also be used to seal interior and exterior above grade slabs and as a low modulus crack filler.

## ADVANTAGES

- ◆ Low modulus, high strength adhesive meeting ASTM C881 Type III Requirements
- ◆ Moisture tolerant
- ◆ Can be used as a High Friction Surface
- ◆ V.O.C. Compliant
- ◆ Shock absorbing ability
- ◆ Can be used with aggregates for mortar repairs

## PROPERTIES

Meets Specification: ASTM C881, Type III, Grade I, Classes B & C Mix Ratio: 1:1, by volume

Gel time – ASTM D-2393, 60 gm sample @ 73°F (23°C): 15 min. Color (mixed) - Dark Amber

Viscosity – 1,500 cps

Final Cure – 7 days

Compressive modulus – ASTM D-695: 80,000 psi (551.1 MPa)

Bond Strength – ASTM C-882: 14 days 3,200 psi (22.1 MPa)

Tensile Strength – ASTM D-638: 3,000 psi (20.7 MPa)

Resilience at 48 Hours (Neat) – 85 | Tex-618-J

Elongation at Break – ASTM D-638: 50.0%

Water Absorption – ASTM D-570: 0.20%

Thermal Compatibility – Passes Test

AASHTO T-222 Chloride Ion Permeability 0.9 Coulombs @ 3 hours: 1,500 psi (10.3 MPa) @ 7 days: 5,500 psi (37.9 MPa)

ASTM D2240: 70

Flexural Yield Strength – ASTM D790: 3,500 psi (24.1 MPa)

Adhesion to Concrete – ASTM C1583 @ 24 hours: 300 psi (2.1 MPa)

## VOC

SILSPEC® RE-DECK VOC content of 0g/L. Compliant with all US VOC regulations including Federal EPA, OTC, LADCO, SCAQMD & CARB.

## STORAGE

Store material between 40°-95°F (5°-35°C).

Shelf life of properly stored, unopened containers is 24 months.

## PACKAGING

2 gal / 7.6 L units (2 - 1 gal cans)      10 gal / 37.9 L (2 - 5 gal pails)

110 gal / 416.4 L units (2 - 55 gal drums)

## ESTIMATING GUIDE

### Broadcast Overlays & Epoxy Mortar

Minimum Epoxy & Aggregate Coverage Rates		
	Epoxy Rate	Aggregate Rate
COURSE 1	1 gal/40 sq ft minimum (1L/m <sup>2</sup> )	10 lbs / sq yd (5.4 kg/m <sup>2</sup> )
COURSE 2	1 gal/20 sq ft minimum (2L/m <sup>2</sup> )	14 lbs / sq yd (7.6 kg/m <sup>2</sup> )
Mortar Coverage Rates		
	Mixed Epoxy/Aggregate Rate	
	1 gal/808 cu in (3.8L/317 cu cm)	

## APPLICATION

**Surface Preparation:** Surface to be bonded must be clean and sound. Surface should be visibly dry. No standing water. Concrete moisture levels must be less than 5% when measured with a multi-pin moisture meter.

Remove dust, laitance, grease, curing compounds, impregnations and other contaminants. Concrete surfaces should be shot blasted to a CSP 3-5 per ICRI.

**Mixing:** Condition material to 65°-85°F (18°-29°C) for ease of mixing and optimum flow prior to using. Premix each component then place 1 part by volume and 1 part by volume of component B into a clean pail and mix for 3 minutes with a low speed drill using a jiffy mixer or paddle until uniformly blended. Mix only what can be used within the pot life.

## PLACEMENT

**Epoxy/Urethane Overlays:** Repair all delaminations, potholes and cracks using SILSPEC® RE-DECK or SILSPEC® FLEXPATCH. Mix the epoxy as previously directed and apply course #1, spreading the neat SILSPEC® RE-DECK at a coverage rate of 40 ft<sup>2</sup>/gal. [1 m<sup>2</sup>/L] using a (3/16) notched squeegee; immediately broadcast select aggregate to refusal (typically 1-1.5 lb/ft<sup>2</sup>, 4.88 –7.32 kg/m<sup>2</sup>). The aggregate\* should be angular grained silica sand or basalt having less than 0.2% moisture and free of dirt, clay and all impurities. The aggregate\* should have a minimum MOHS scale hardness of 7 unless otherwise approved. After the initial cure of the first course, remove all excess aggregate and apply course #2, spreading the neat SILSPEC® RE-DECK at a coverage rate of 20 ft<sup>2</sup>/gal.(0.5 m<sup>2</sup>/L), once again broadcasting the select aggregate to the point of refusal.

After allowing the system to cure (2.5 hrs for course #1 and 4 hrs for course #2) @ 70°F (22°C) and after all the loose aggregate has been removed it can be opened to traffic.

### Minimum Curing Times of SILSPEC® RE-DECK

	Average Temperatures of Overlay Components & Substrate					
	60-64°F 16-18°C	65-69°F 19-21°C	70-74°F 22-23°C	75-79°F 24-26°C	80-84°F 27-29°C	85+°F 29+°C
Min. Cure Time Course 1	4 hrs	3 hrs	2.5 hrs	2 hrs	1.5 hrs	1 hr
Min. Cure Time Course 2	6-5 hrs	5 hrs	4 hrs	3 hrs	2.5 hrs	2.5 hrs

## HIGH FRICTION SURFACE APPLICATION

SILSPEC® RE-DECK can be utilized in HIGH FRICTION SURFACE APPLICATIONS, contact Silicone Specialties, Inc. for specific recommendations regarding use and installation for on-grade installations.

SILSPEC® RE-DECK when mixed with SILSPEC® BLENDED AGGRE-

3.5 to 5 parts of aggregate to one part pre-mixed SILSPEC® RE-DECK and then mix thoroughly to completely wet all of the aggregate. Prime the substrate using neat SILSPEC® RE-DECK then apply the mortar by trowel or screed while the primer is still tacky. Also available for patching prior to overlay is SILSPEC® FLEXPATCH, a prepackaged epoxy repair mortar.

At 73°F (23°C) gel time is 15 minutes. Final cure is 7 days. Patches should be allowed to set prior to overlay installation.

\* See Aggregate Chart on page 2 for type and gradation.



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**CLEAN UP**

Clean tools and equipment immediately after use with Xylene or a citrus cleaner. Cured material must be mechanically removed.  
**CAUTION– Xylene IS FLAMMABLE** and all safety codes and regulations governing its use must be observed.

**MATERIAL SPILL**

Collect with absorbent material. Dispose of in accordance with local, state and federal disposal regulations.

**FOR CHEMICAL EMERGENCY CALL  
 1-800-842-9300  
 24 hours per day, 7 days per week.**

**CONTACT**

Contact SSI for further information or installation instructions.

**LIMITATIONS**

**FOR PROFESSIONAL USE ONLY**

Always test a small amount of SILSPEC® RE-DECK to ensure the product is mixed properly and thoroughly and that the material will harden properly before proceeding with installation.

Concrete surfaces must be less than 5% moisture content when tested with a moisture pin meter. On wood and other surfaces contact the manufacturer for more information.

Surface and ambient temperature must be a minimum of 50°F (10°C) for application.

Do not thin with any solvents.

Epoxies may yellow, discolor, or chalk upon exposure to strong sources of Ultra-Violet radiation such as sunlight and some types of industrial artificial lighting.

NOTE: High temperatures will accelerate the setting. As a general rule, the gel time of epoxy will be cut in half for each 10° to 15° increase in temperature above 75°F (24°C).

**Aggregate Size Chart**

1. Aggregate shall be bauxite and/or flint having less than 0.2% moisture and free of dirt, clay, ect. 2. The bauxite and flint shall have a minimum MOHS scale hardness of 7 unless otherwise approved. 3. The bauxite and flint shall conform to the following gradation:			
PERCENT BY WEIGHT PASSING INDICATED SEIVE			
No. 4 Sieve	No. 8 Sieve	No. 16 Sieve	No. 30 Sieve
100%	20-75% Max.	5% Max.	1%

**PRECAUTIONS**

It is the users responsibility to familiarize themselves with all safety precautions prior to use. A product SDS is provided upon request by contacting SSI at (800)888-8909.


- ◆ Component A– Irritant
- ◆ Component B– Corrosive
- ◆ Product is a strong sensitizer
- ◆ Use with adequate ventilation
- ◆ Wear protective clothing, gloves and eye protection (Goggles, Safety Glasses and/or Face Shield)
- ◆ Keep out of reach of children
- ◆ Do not take internally
- ◆ In case of ingestion, seek medical help immediately
- ◆ May cause skin irritation upon contact, especially prolonged or repeated. If skin contact occurs, wash immediately with soap and water and seek medical help as needed
- ◆ If eye contact occurs, flush immediately with clean water and seek medical help as needed
- ◆ Dispose of waste material in accordance with local, state and federal requirements
- ◆ Cured epoxy resins are innocuous

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