



REMR MATERIAL DATA SHEET CM-SE-1.52

CONCRETE SEALER: SILIKAL R41

1. NAME	Film thickness, mils at 200 sq ft/gal	8
Silikal R41	Water absorption, weight percent (ASTM D 570)	<0.6
2. MANUFACTURER	Tensile strength, psi (ASTM D 638)	3,550
Silikal North America, Inc. 305 Sniffen Lane Stratford, CT 04697 Telephone: 203-377-5500	Tensile modulus, psi $\times 10^5$ (ASTM D 638)	2.1
3. DESCRIPTION	Coefficient of thermal expansion, in./in. $^{\circ}$ F $\times 10^{-5}$ (ASTM D 696)	3.5
Silikal R41 consists of esters of acrylic and methacrylic acid.	Water vapor transmission g/cm-hr-mm Hg $\times 10^{-9}$ (DIN 53122)	1.4
4. USES & LIMITATIONS	Chemical resistance (ASTM D 543)	
<u>Uses:</u> Sealer for concrete.	Effect of weak acids	None
<u>Limitations:</u> Most reactive resin systems have a very low vapor perme- ability and act as vapor barriers; therefore, substrate must be protected against rising moisture.	Effect of strong acids	Slight
If substrate and/or material tempera- tures are too hot, priming and sealing applications should not be undertaken. In general, application of reactive resins in direct sunlight is not rec- ommended. Silikal resins remain easily workable even at low temperatures.	Effect of alkalies	None
5. MANUFACTURER'S TECHNICAL DATA	Effect of salt solutions	None
<u>Typical performance properties:</u>	Effect of gasoline, oil, grease	None
Reactive resin, percentage	Effect of sunlight	None
100	<u>Installation and application data:</u>	
	Cure time at 68 $^{\circ}$ F, min	30-45
	Recoat time, min	30-45
	<u>Packaging:</u> Resin components are pack- aged in 5-gal (38-lb) pails and 55-gal (400-lb) drums.	
	Powder hardener is packaged in 2-lb containers and 50-lb fiber drums.	
	I-component is packaged in 2-lb cans, 5-gal (38-lb) pails, and 400-lb drums.	
	<u>Storage:</u> Store Silikal materials in original containers, and keep cool and dry. Use before expiration date	

indicated on label. I-component is humidity sensitive so opened containers should be used up within 24 hr. Before using, consult product labels and manufacturer's Material Safety Data Sheets.

Warranty: Silikal North America, Inc. warrants that materials shipped to buyers are at time of shipment substantially free from material defects and will perform substantially according to Silikal's published literature if used strictly in accordance with Silikal's prescribed procedures and prior to expiration date. Silikal's liability with respect to this warranty is strictly limited to the value of the materials purchased. Silikal has no responsibility for the application and processing of products and is under no circumstances liable to any third party whatsoever.

6. MANUFACTURER'S GUIDANCE FOR APPLICATION

Preparatory work: Substrate shall be surface dry and cleaned of oils, grease, wax, solvents, curing membranes, and any other contaminants.

Application: Materials shall be applied with brushes, brooms, or lambswool or other rollers. Apply evenly without forming puddles.

The lack of solvents, combined with the excellent penetrating properties of the resins, results in most cases in complete pore closure of the substrate after only one coat is applied. However, on very porous surfaces it may be necessary to repeat application several times. Close pinholes and recoat dull areas where resin is fully absorbed by substrate.

Silikal Chopped Glass Mat (3/4-oz random weave in 6-ft wide rolls) may be laminated onto substrate to provide increased flexibility and impact resistance.

To increase skid-resistance or if used as primer for subsequent polymer concrete overlays, some angular #25-#16 mesh, clean, dried quartz sand may be broadcast into the fresh, uncured resin.

When used as primers, R41(i), R41s(i), and RU727 should be overlaid or topcoated within 24 hr (or less where high humidity is present). Areas which cannot be topcoated in time shall be wiped down with straight MMA approximately 20 to 30 min before applying fresh Silikal material.

Coverages: One sq ft at 12 mils (0.3 mm) thickness will require about 0.05 to 0.15 lb of resin (55 to 160 sq ft/gal, depending on the porosity of the substrate. Small scale trail applications should be carried out to determine coverage on larger jobs. The use of Silikal Chopped Glass Mat reinforcement requires an additional 0.15 lb of resin per sq ft. If used to topcoat and seal Silikal Polymer Concretes, 1 sq ft at 8 mils (0.2 mm) thickness will require about 0.04 lb of resin (200 sq ft/gal).

7. CORPS OF ENGINEERS' EVALUATION (tested as concrete sealers only)

Physical and mechanical properties:

Percent solid
(ASTM D 1644, Method A): 18.7%

Percent moisture absorption
(ambient temp) (ASTM C 642-82):

1 day	0.06%
2 days	0.07%
4 days	0.12%
7 days	0.21%

Ratio of percent moisture absorption for treated to nontreated specimen (2-day submersion): 1.49%

Percent vapor transmittance (see REMR
Technical Note CS-ES-1.8):

2 days	0.10%
4 days	0.18%
7 days	0.31%

Ratio of percent vapor transmittance
for treated to nontreated specimen
(2-day diffusion): 6.3%

8. AVAILABILITY AND COST

Availability: Silikal primer/sealers
are sold through Silikal North
America, Inc. and through licensed
applicators.

Cost: Cost of Silikal material sys-
tems depends upon quantity and other
variables.

9. TECHNICAL SERVICES

Application and material engineering
services are available. Services may
include step-by-step problem solving
in such areas as problem assessment,
material selection, and development of
job procedures. Standard Silikal
systems may be modified to meet spe-
cial or unusual situations or needs.

10. ENVIRONMENTAL CONSIDERATIONS

Reasonable caution should guide the
preparation, repair, and cleanup
phases of activities involving poten-
tially hazardous and toxic chemical
substances. Manufacturer's recommen-
dations to protect occupational health
and environmental quality should be
carefully followed. Material safety
data sheets must be obtained from the
manufacturers of such materials. In
cases where the effects of a chemical
substance on occupational health or
environmental quality are unknown,
chemical substances should be treated
as potentially hazardous toxic
materials.