



REMR MATERIAL DATA SHEET CM-SE-1.12

CONCRETE SEALER: SINAK 101 AND
SINAK 102

1. NAME

Sinak 101 and Sinak 102

colored concrete. Sinak Sealers will permanently etch glass and discolor aluminum, stainless steel, and glazed materials.

2. MANUFACTURER

SINAK Corp.
861 Sixth Avenue, Suite #411
San Diego, CA 92101
Telephone: 619-231-1771

Excess (puddled) sealer left to dry on the surface will result in a white, scaly residue that may be difficult to remove.

3. DESCRIPTION

Silicate-based liquid with a proprietary wetting agent.

The product should not be allowed to freeze. The products are irritants and contain sodium silicate. Avoid contact with eyes and prolonged contact with skin. In case of contact, flush with plenty of water. For eyes, get immediate medical attention.

4. USES & LIMITATIONS

Uses: Both Sinak Sealer formulas are effective in waterproofing, providing salt-penetration resistance, and reducing freeze-thaw damage. Tests indicate that the Sinak Sealer formulas are effective against salt, even after heavy vehicular traffic wear. The Sinak Sealer formulas are manufactured to be effective on concrete areas such as bridge decks, roadways, and other concrete surfaces.

Limitations: For concrete surfaces only. Sinak Sealers S-101 and S-102 are not designed to seal noncement surfaces or structural cracks.

For use on concrete surfaces only. The Sinak Sealer formulas S-101 and S-102 may permanently discolor some types of noncementitious masonry and

5. MANUFACTURER'S TECHNICAL DATA

Exceptional chloride ion (salt) protection: Sinak Concrete Sealer S-102 was tested in accordance with AASHTO T-259, "Resistance of Concrete to Chloride Ion Penetration," based on abraded concrete specimens to simulate actual traffic wear.

This test dramatically demonstrated the Sinak Sealer's ability to reduce chloride ion penetration and protect the reinforcing steel in concrete surfaces subject to intensive traffic wear.

Test results are given using different methods of measurement, allowing the user to accurately compare Sinak Sealer with other protection systems at a depth of 1/2 to 1.0 in.:

Amount of Chloride	Untreated Concrete	FHWA	
		Criteria Level	Sinak Treated
lb/cu yd concrete	6.57 lb	1.20 lb	0.04 lb
% by weight	0.164%	0.030%	0.001%
Parts/million	1643	300	10

Exceptional freeze-thaw protection:

Tested in accordance with ASTM C 672: "Method of Test for Scaling Resistance of Concrete Surfaces Exposed to De-Icing Chemicals and Freeze/Thaw"

Cycles completed: 50 cycles

<u>Specimen</u>	<u>Results</u>
Untreated (control)	Slight to moderate scaling (2+). 1.5% weight loss.
Sinak Sealer treated	Zero (0) scaling. Zero weight loss.

Increased concrete durability:

Method used: Rapid freeze-thaw (salt solution)

400 cycles completed: Each cycle freeze -68° F (32 min), thaw +68° F (16 min)

No. Cycles	Dilation (% per thousand)		Degree of Improvement
	Sinak Treated	Untreated (Control)	
25	0.00078	0.000179	2.3 x's
100	0.00124	0.00190	1.5 x's
200	0.00115	0.00244	2.1 x's
400	0.00096	0.00218	2.3 x's

Product characteristics:

Color: Water clear

Flash point: None

Specific gravity: 1.1

Weight: 9.2 lb/gal

Dry solids content:

S-101: 12.4%

S-102: 11.1%

Warranty:

Sinak Corp. warrants its products to be of the highest quality. Since application of the product is a crucial factor in obtaining satisfactory results and is beyond the control of Sinak Corp., refund of purchase price or replacement of product shall constitute the limit of Sinak Corp.'s liability. Sinak Corp. makes no other warranties, expressed or implied.

This warranty may not be modified or extended by representatives of Sinak Corp., its distributors, or dealers. A limited 10-year warranty can be provided by the manufacturer for specific projects.

6. MANUFACTURER'S GUIDANCE FOR APPLICATION

Surface preparation:

All coatings, sealants, dirt, surface oil, excessive efflorescence, standing water, and any material that may prevent penetration of the sealer should be removed.

All objects should be protected from overspray. This is especially necessary with glass, stainless steel, aluminum, ceramics, glazed tile, and wood.

Application:

Using a garden or an airless sprayer (see "Airless Sprayer Preparation"), apply sealer in light, even coats (minimum two coats). Do not apply sealer in heavy coats.

Immediately after the first coat is dry to the touch (drying time may vary from 10 to 90 min for each coat depending on the ambient temperature), apply a second coat.

If a light sheen is visible when the second coat is dry, stop application. If not, repeat coats until a light sheen is apparent. Apply only as much sealer as the surface will readily absorb, as this increases penetration. Areas that absorb sealer at a fast rate (dry spots) will require additional coats.

Note: Do not allow sealer to run on vertical applications. If runoff should occur, dampen surface with water and scrub residual sealer into vertical surface with a stiff bristle brush.

Do not allow sealer to puddle on horizontal applications. Should puddling occur, sweep excess material to adjacent areas.

Warning: Excess (puddled) sealer left to dry on the surface will result in a white, scaly residue that is difficult to remove.

After the second coat of sealer is dry to the touch, spray a light water mist over the entire treated area. The surface should dry dull, like untreated concrete. If a sheen is still apparent, repeat the water-mist application cycle until the surface does dry dull like untreated concrete.

Note: In most cases one water-mist application is sufficient. Under some circumstances additional water-mist applications may be required.

Do not cover any treated area with carpet, tile, or paint sealants or fill any water ponds or water tanks for a minimum of 14 days. The sealer is curing during this time but can be used for foot and vehicle traffic.

In some instances during the curing period, a white powdery residue may appear on the surface. This is due to the sealer's cleansing the concrete, and the process will continue for about 14 days. The residue may be easily removed by rinsing or sweeping it away.

Clean all equipment with water.

Hot-weather application: In hot weather (above 90° F) prepare the surface for sealing by lightly dampening with a water spray to cool the surface before application. The surface should be completely dry before applying sealer. It is important to start sealer application immediately after the water has dried. After applying sealer, lightly water mist the treated area between coats. This will prevent the sealer from setting up on the surface. Follow the general application instructions.

Cold-weather application: Cold temperatures cause Sinak Sealers to absorb at a slower rate. Allow sealer time to penetrate completely between applications. Do not apply sealer in temperatures below 40° F or if temperature is expected to drop below 32° F within a 24-hr period. Follow the general application instructions.

Outdoor application: Sealer may dry prematurely in breezy or windy conditions. It is advisable to hold the spray nozzle close to the surface to minimize airborne particles. If rain is expected within a 24-hr period, do not apply sealer. If it does rain within a 24-hr period after applying sealer, another application may be required. Contact local distributor for assistance.

Follow the general application instructions.

New concrete: Apply sealer after the concrete has cured for a minimum of 14 days. For optimum results allow concrete to cure for 28 days or longer.

Coverage rates:

<u>Condition of Surface</u>	<u>Coverage sq ft/gal</u>	<u>Product</u>
Dusting, broom finish concrete	150-250	S-101
Smooth, machine-finished concrete	200-250	S-102
Rough-finished roadway	150-200	S-102
Bridge decks	150-250	S-102

7. CORPS OF ENGINEERS' EVALUATION

Physical and mechanical properties:

Percent solid 101-14.9%
(ASTM D 1644, Method A): 102- 8.0%

Percent water absorption
(ambient temperature) (ASTM C 642)
first coat: 101, second coat: 102:

1 day	4.40%
2 days	4.40%
4 days	4.50%
7 days	4.50%

Ratio of percent water absorption for treated to nontreated specimen (2-day submersion): 93.6%

8. ENVIRONMENTAL CONSIDERATIONS

Reasonable caution should guide the preparation, repair, and cleanup phases of sealant activities involving potentially hazardous and toxic chemical substances. Manufacturer's recommendations to protect occupational

health and environmental quality should be carefully followed. Material safety data sheets should 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.

9. AVAILABILITY & COST

Sinak Concrete Sealers are available from selected dealers and distributors throughout most of the United States. The Sinak Concrete Sealers S-101 and S-102 are available in 5-gal plastic containers, 55-gal steel drums, and bulk tank loads. Costs are available from the dealers.

10. TECHNICAL SERVICE

Complete technical services are available both directly from the manufacturer and from trained field representatives. Services include analysis and review of drawings, specification assistance, and jobsite review and assessments. The manufacturer and sales representatives are available to work with the contractor through the initial and final stages of applications to ensure proper installation.