

## PRODUCT NAME

# Gem-Gard™ SI 100 Concentrate

## Water-borne silicate based sealer/ hardener for concrete

## MANUFACTURER

### Gemite® Products Inc.

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## FEATURES AND BENEFITS

- water borne
- penetrating - does not wear off
- chemically reactive with the substrate
- moisture and oil proof
- hardens concrete surface
- breathable
- protects against penetration of water and salts
- chemically resistant to oils, gasoline and hydraulic fluids
- increases chemical resistance of concrete

## PRODUCT DESCRIPTION

### Basic Use

*Gem-Gard SI 100 Concentrate* is a clear, water borne penetrating sealer, which is used for dustproofing, hardening, moisture and oil proofing of concrete floors, parking garage slabs, walks and driveways. It is mixed with water in ratios varying from 1 volume part of *Gem-Gard SI 100 Concentrate* to 4 volume parts of water to 1 volume part of *Gem-Gard SI 100 Concentrate* to 2 volume parts of water. The same material can be used also as curing compound for concrete. Then the dilution ratio is typically 4 volume parts of *Gem-Gard SI 100 Concentrate* to volume part of water. Contact Gemite Products Inc Technical Service for further information.

### Composition of Materials

*Gem-Gard SI 100 Concentrate* contains water borne silicate solutions and wetting agents. When properly diluted with water, it penetrates through the capillary pores of concrete and chemically reacts with products of hydration, filling the open pores and closing small voids.

### Limitations

*Gem-Gard SI 100 Concentrate* does not provide water or oil repellence. It may cause a slight darkening of the substrate in some instances. Prepare a site test sample for approval by client/architect if the possibility of darkening is of concern.

### Health and Safety

*Gem-Gard SI 100 Concentrate* is nontoxic and nonflammable.



Do not take internally; keep out of reach of children. Depending on the degree of alkalinity, (the dilution ratio with water), *Gem-Gard SI 100* may irritate or burn the skin and eyes. If contact with skin occurs, wash with soap and water. Harmful if digested. Keep the product out of reach of children. FOR INDUSTRIAL USE ONLY. It is non-hazardous for transportation purposes. Consult MSDS for additional information.

### Packaging

*Gem-Gard SI 100 Concentrate* is supplied 20 L (5 USG) containers, or 205 L (54 USG drums).

### Coverage

For treating concrete slabs *Gem-Gard SI 100 Concentrate* is typically mixed with water in volume ratio of 1:4 or 1:3. See a note in the application section of this products data sheet. When mixed with water 1: 3, the typical coverage is 4.9 m<sup>2</sup> per L (200 ft<sup>2</sup> per USG), per one coat. Typically three coats are applied. The above figures are for estimation purposes only. The coverage rate must satisfy the substrate porosity.

## TECHNICAL DATA

Weight:	1.41 kg/L, 11.8 lbs/USG
Penetration	3 to 6 mm (1/8 - 1/4 in )
Appearance	Thick liquid
Color	Clear to hazy white
Odor	Odorless
pH	Approximately 12
Solubility in water	Miscible

Note: *Gem-Gard SI 100 Concentrate* is typically mixed on site with water. Please contact Gemite Products Inc. for further information.

### Storage and Transportation

Shelf life of unopened containers is 4 years.

## INSTALLATION

Surface must be clean and free of dust, dirt, oil and other contaminants. The surface to be treated must be dry to allow good penetration of *Gem-Gard SI 100*. All caulking, patching and joint sealing must be installed prior to application of *Gem-Gard SI 100*. Clean the surface well - a light shotblast or a high pressure water wash 3,500 psi (24 MPa). Dry the surface over night, or longer if water has been used for clean up. The typical application may proceed as follows: Apply the 1st coat of *Gem-Gard SI 100 Concentrate* mixed with water 1: 3, using a mop, broom or a squeegee and let it dry for 24 hours Apply the 2nd coat at the same dilution and let dry for 24 hours Apply the 3rd coat, let dry for 24 hours and pressure wash the surface with water to remove any excess material to avoid a possibility of light

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powder dusting from the excess of material. Note: The use of *Gem-Gard SI 100 Concentrate* for hardening concrete floors and rendering them resistant to the formation of dust under tracking operations depends for its success not so much on the silicate film left on the surface as on the silicious deposit which closes the pores. For this reason it is the best to choose a dilution just sufficient to permit the whole liquid applied to the surface to be absorbed into the concrete and then to use a somewhat stronger solution for later applications, thus gaining the advantage in the first instance of strengthening the wear resistance and in the second of securing the surface against the penetration of oils and other liquids. Fresh concrete contains free lime, which will slowly react with the penetrating solution to form an insoluble gel, which increases the resistance to wear and penetration of liquids. The appropriate *Gem-Gard SI 100* concentration will vary with porosity of the concrete, but a typical procedure might be as follows: The clean dry concrete surface is first treated with a solution of 1 volume of *Gem-Gard SI 100 Concentrate* with 4 volumes of water. This is spread over the entire surface with broom or squeegee, the excess drained off, and allowed to stand for 24 hours. The surface may be then washed with water, dried a second and third treatment are applied, this time with 1 part of *Gem-Gard SI 100 Concentrate* and 3 parts of water, taking care that the amount of solution is sufficient for the concrete to pick up all the liquid it will absorb. Leave 24 hours between the applications. Use potable water for dilution, providing that a cloudish precipitate does not appear after mixing the *Gem-Seal SI 100 Concentrate* with water. Otherwise, use de-ionized water.

## **MAINTENANCE**

No maintenance required.

## **WARRANTY**

A limited, twelve (12) months, Material Replacement Warranty is available. Contact Gemite Technical Service for further information.

## **TECHNICAL SERVICE**

For advice on suitability of *Gem-Gard SI 100 Concentrate* for a specific application, specification assistance and application advice contact Technical Services: US (888) 443-6483 or Canada (905) 672-2020.

## **Short Specification**

The water penetrating sealer will be water borne silicate based sealer *Gem-Gard SI 100 Concentrate*, manufactured by Gemite Products Inc., Amherst, NY (Mississauga, Ontario). It shall be applied at a minimum rate of \_\_\_\_\_ m<sup>2</sup>/L ( ft<sup>2</sup> )/USG and dilutions as per manufacturer's current Guide Specifications and Application Instructions.