

PRODUCT NAME

Gem-Gard™ MSF

Waterborne magnesium fluorosilicate Sealer/ Hardener for Concrete



MANUFACTURER

Gemite® Products Inc.

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FEATURES AND BENEFITS

- water borne
- deep penetration into dense concrete (does not wear off)
- chemically reactive with the substrate
- densifies and dustproofs concrete surfaces
- hardens concrete surface
- prolongs floor life
- breathable
- protects against penetration of water, salts & chemicals
- chemically resistant to oils, gasoline & hydraulic fluids
- increases chemical resistance of concrete

PRODUCT DESCRIPTION

Basic Use

Gem-Gard MSF is a clear, water borne penetrating sealer, used for protection, dustproofing, hardening and oil proofing of concrete floors, parking garage slabs, walks & driveways. It is used on horizontal and vertical concrete surfaces, floors of industrial and commercial buildings, basements and concrete storage silos. It is mixed with water in ratios varying from 1:2 to 2:1 parts of *Gem-Gard MSF* to parts of water ((by volume). It improves concrete chemical resistance against caustic soda, calcium chloride, sodium chloride, soap solutions, ammonium chloride, solvents, fuel oils and sugar solutions. Contact Gemite Products Inc. Technical Service for further information.

Composition of Materials

Gem-Gard MSF contains waterborne magnesium fluorosilicate solution. When 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 MSF 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. *Gem-Gard MSF* is not recommended for application to colored concrete surfaces.

Caution: If excess of *Gem-Gard MSF* is left on the concrete surface, a white residue may form and must be removed by scrubbing immediately.

Health and Safety

Gem-Gard MSF is nonflammable. Do not take internally. Keep out of reach of children. Depending on the degree of alkalinity, (the dilution ratio with water), *Gem-Gard MSF* 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 MSF is supplied 20 L (5.3 USG) pails, or 208 L (55 USG) drums.

Coverage

Typically three coats are applied. The coverage rate must satisfy the substrate porosity. See the Installation section of this products data sheet for details.

TECHNICAL DATA

Weight:	1.18-1.20 kg/L, 9.82 - 9.99 lbs/USG
Penetration	2-4 mm (80-160 mils)
Appearance	Liquid
Color	Colorless
Odor	Odorless
pH	Approximately 2.5
Traffic cure time	foot 4-6 hours; wheel 24 hours
V.O.C.	0 grams/ L
Solubility in water	Miscible

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

Storage and Transportation

Shelf life of unopened containers is 2 years. It must be kept from freezing. Storage temperature above 5°C.

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 MSF*. All caulking, patching and joint sealing must be installed prior to application of *Gem-Gard MSF*. Clean the surface well, using a light shotblast, or a high pressure water 3,500 psi (24 MPa). Dry the surface over night, or longer if water has been used for clean up. The number of coats, dilution

Gemite Products Inc.
July 2009

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03064 Concrete Sealers
03055 Concrete Surface Hardeners

ratios and coverage rates are dependent on the concrete.

Coverage rates and materials requirements below are approximate for steel troweled concrete surfaces. Highly porous or dusting surfaces may require less dilution, reduced coverage rates, or additional coats. Site test must be carried out to determine the correct procedure.

Coats	Dilution Ratio MSF to water	Coverage rate, diluted MSF	Undiluted MSF required/ 1,000 ft ² (93 m ²)
1st Coat	1:2	150 ft ² /USG (3.7 m ² /L)	2.2 USG (8.3 L)
2nd Coat	1:1	200 ft ² /USG (4.9 m ² /L)	2.5 USG (9.5 L)
3rd Coat	2:1	300 ft ² /USG (7.4 m ² /L)	2.2 USG (8.3 L)

Typical Application Steps:

Step 1: apply the 1st coat of *Gem-Gard MSF* mixed with water 1: 2, using a mop, broom or a squeegee and let it dry for 24 hours

Step 2: apply the 2nd coat at 1:1 dilution and let dry for 24 hours

Step 3: apply the 3rd coat, let dry for 24 hours

Step 4: use pressure water to remove any excess material from the concrete surface to avoid a possibility of light powder dusting from the excess of material.

Note: The performance of *Gem-Gard MSF* for hardening concrete floors and rendering them resistant to the formation of dust under heavy traffic depends mainly on the siliceous deposit, which closes the pores, and not so much on the silicate film left on the surface. For this reason, it is the best to choose a dilution

just sufficient to permit all of the liquid applied to the surface to be absorbed into the concrete, and only use a somewhat stronger solution for later applications. This method increases the wear resistance in the first instance, and secures the surface against the penetration of oils and other liquids in the second. Fresh concrete contains free lime that will slowly react with the penetrating solution to form an insoluble gel, which increases the resistance to wear and penetration of liquids.

Potable water can be used for dilution. If a cloudish precipitate does appear after mixing the *Gem-Gard MSF* with water, you MUST use de-ionized water instead.

MAINTENANCE

No maintenance required.

WARRANTY

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

TECHNICAL SERVICE

Contact Gemite Technical Service for specification assistance, application advice & advice on suitability of *Gem-Gard MSF* for a specific application. US (888) 443-6483 / Canada (905) 672-2020.

Short Specification

The water penetrating sealer will be waterborne magnesium fluorosilicate sealer *Gem-Gard MSF*, manufactured by Gemite Products Inc., [Amherst, NY] [Mississauga, ON]. It shall be applied at a minimum rate of ___m²/L (ft²)/USG, and dilution and rate of application shall be as per manufacturer’s current Guide Specifications and Application Instructions.