

PRODUCT NAME

Nano-Gard™ 100 Plus

Waterproofing, water borne, hydrophobic concrete sealer



MANUFACTURER

Gemite® Products Inc.

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FEATURES AND BENEFITS

- water borne
- penetrating
- hydrophobic
- chemically reactive with the substrate
- hardens and waterproofs 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

Nano-Gard 100 Plus is a clear, water borne penetrating sealer, which is used for waterproofing, dustproofing, hardening, moisture and oil proofing of concrete walls, floors, parking garage slabs, walks and driveways. It is mixed with water in ratios varying from 1.5 to 2.5 volume parts of water to 1 volume part of *Nano-Gard 100 Plus*. For maximum penetration, the dilution ratio is typically 1 volume part of *Nano-Gard 100 Plus* to 2 volume parts of potable water. For positive or negative side waterproofing on walls and slabs, the hydrophilic *Nano-Gard 100 ST* is applied in the first in one or two coats. Contact Gemite Products Inc. Technical Service for further information.

Composition of Materials

Nano-Gard 100 Plus contains water borne silicate solutions and modifying 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. On curing the treatment results in formation of hydrophobic particles, providing a highly effective waterproofing in combination with *Nano-Gard 100 ST*, typically applied in the first coat.

Limitations

Nano-Gard 100 Plus provides water 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. Keep in mind that the hydrophobic *Nano-Gard 100 Plus* can be applied only in one coat - the hydrophobicity does not allow penetration of the second coat. The hydrophobicity of the surface will disappear in time due to dirt deposited on the floor surface, or dust on wall surfaces, but the water penetration reduction due to the presence of hydrophobic particles in capillary remains. The larger dynamic cracks must be treated separately. Please contact Gemite Technical Service for further information.

Health and Safety

Nano-Gard 100 Plus 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), *Nano-Gard 100 Plus* 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

Nano-Gard 100 Plus is supplied 20 L (5 USG) containers, or 209 L (55.3 USG drums).

Coverage

For treating concrete walls or slabs *Nano-Gard 100 Plus* is typically mixed with water in volume ratio of 1:2 (One volume part of *Nano-Gard 100 Plus* and two volume parts of water) When mixed with water 1: 2, the typical coverage is 3.7- 4.9 m² per L (150-200 ft² per USG), per one coat of the diluted solution. Typically one or two coats of *Nano-Gard 100 ST* are applied first prior to application of *Nano-Gard 100 Plus*. The above figures are for estimation purposes only. The coverage rate must satisfy the substrate porosity, but do not overapply - formation of white latency on the surface is an indication of excess amount being applied.

TECHNICAL DATA

Weight:	1.18 1.20 kg/L, 10.00 lbs/USG
Penetration	3 to 6 mm (1/8 - 1/4 in)
Appearance	Liquid
Color	Clear to hazy white
Odor	Odorless
pH	11- 12
Solubility in water	Miscible

Storage and Transportation

Shelf life of unopened containers is 4 years.

Gemite Products Inc.
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3 & 7

103064 Concrete Sealers
03055 Concrete Surface Hardeners

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 *Nano-Gard 100 Plus*. All caulking, patching and joint sealing must be installed prior to application of *Nano-Gard 100 ST*. All cracks and junctions between the horizontal slab and vertical walls must be sealed. *Nano-Gard 100 Plus* will not waterproof these. Existing larger dynamic cracks need to be treated (waterproofed) separately. There are different methods of treating these types of cracks, depending on the type of application. Contact Gemite Technical Service for further information. Clean the surface well - a light shotblast or a high pressure water wash 5,000 psi (34 MPa). Dry the surface over night or longer, to get completely dry substrate. The typical application may proceed as follows: Apply the 1st coat of *Nano-Gard 100 ST* mixed with water 1: 2, using a mop, broom or a squeegee and let it dry for 24 hours on horizontal surfaces. Use a low pressure sprayer on vertical (wall) surfaces. Apply the 2nd coat at the same dilution and let dry for 24 hours. pressure wash the surface with water to remove any excess material to avoid a possibility of white surface laitence. When hydrophobic surface is required use hydrophobic *Nano-Gard 100 Plus* in the last coat. For the best waterproofing and chloride penetration protection effect, it is recommended to use two coats of *Nano-Gard 100 ST* and one coat of hydrophobic *Nano-Gard 100 Plus*. Keep in mind, that after application of hydrophobic *Nano-Gard 100 Plus*, an additional water borne coats (or paints) can't be applied, since the surface will be rendered hydrophobic. Note: the use of *Nano-Gard 100 Plus* 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 siliceous 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 *Nano-Gard 100 Plus* concentration will vary with porosity of the concrete. Use potable water for dilution, providing that a cloudish precipitate does not appear after mixing *Nano-Gard 100 Plus* 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 *Nano-Gard 100 Plus* for a specific application, specification assistance and application advice contact Technical Services: US (888) 443-6483 or Canada (905) 672-2020.

Short Specification

The penetrating sealer will be water borne silicate based *Nano-Gard ST 100*, manufactured by Gemite Products Inc., Amherst, NY (Mississauga, Ontario). It shall be applied at a minimum rate of _____ m²/L (ft²)/USG and dilutions as per manufacturer's current Guide Specifications and Application Instructions.