

PRODUCT NAME

Nano-Shield™ OSP

Organic Solvents Protection

MANUFACTURER

Gemite® Products Inc.

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FEATURES

- Resistant to all organic solvents
- Impermeable to all organic solvents
- Resistant to alkali environment
- Fast cure - solvent impermeable in 48 hours
- Protects and Oilproofs highly porous concrete
- Waterproofs on Negative & Positive sides
- Nonflammable
- One component (add water only)
- Completely inorganic & environment friendly
- Long working time - 30 minutes plus
- Nontoxic
- Easy application

PRODUCT DESCRIPTION

Basic Use

Nano-Shield OSP is a completely inorganic coating/topping used primarily as protection of concrete against penetration of organic solvents and emulsified hydrocarbons. It also provides highly effective waterproofing on both, negative and positive sides. It is used mainly in concrete tanks, as a topping or coating on floors, and in secondary containment structures. In combination with *Cem-Kote Barrier Coat 100* it can be bonded, by using special procedures, to oil contaminated concrete. *Nano-Shield OSP* is also used as a waterproofing coating for existing water storage & water treatment concrete structures, digesters, clarifiers and utility vaults. *Nano-Shield OSP* is suitable for waterproofing of retaining walls, basements, concrete slabs, swimming pools and other concrete structures.

Composition and Materials

Nano-Shield OSP is a one component (add water only), completely inorganic composition containing Portland cement, silica fillers and inorganic binders.

Limitations

Nano-Shield OSP develops its resistance to penetration of solvents by wet curing. It must be wet cured for approximately 3 days.



Mix only the amount of material which can be applied within a 30 minutes period of time. *Nano-Shield OSP* must not be used in acidic environments. Do not apply *Nano-Shield OSP* when the temperature is expected to be below 4°C (40° F) or when rain is imminent. The proper surface preparation is essential for successful bond of *Nano-Shield OSP*.

Health and Safety

Nano-Shield OSP is nontoxic and nonflammable. Your skin might be sensitive to cement. We recommend use of rubber gloves. Avoid contact with skin. If contact occurs, flush immediately with water. Seek medical advice if irritation occurs. Harmful if digested. Keep product out reach of children. FOR INDUSTRIAL USE ONLY. Consult MSDS for additional information.

Color

Industrial Gray

Packaging

Nano-Shield OSP Premix is packaged in 22.7 kg (50 lbs.) bags.

Yield

Nano-Shield OSP Premix yields 13.2 L (0.47 ft³) and the theoretical coverage is 6.6 m² @ 2 mm thickness (or 71 ft² @ 80 mils thickness). The thickness of application varies depending upon the actual end use. The actual coverage will depend on surface roughness and the thickness applied. The applicator must carry out a sample application to determine the actual coverage for the given substrate, application rate and method of application. Please contact Gemite Products Inc. for further information..

Storage and Transportation

Nano-Shield OSP stored on pallets in a dry, cool area has a shelf-life of 12 months. Packaged 55 bags per pallet.

TECHNICAL DATA

Compressive Strength (ASTM C109 Modified)	44.8 - 51.7 MPa (6,500 -7,500 psi)
Modulus of Rupture (ASTM C348) 28 days	6.2 - 7.8 MPa (900 - 1,130 psi)
Bond Strength with Concrete (Pull off test)	Greater than the tensile strength of the concrete substrate
Water Vapor Permeance 3 mm (1/8 in) thickness	1.1 metric perms
Hydraulic Permeability	Concrete block coated with <i>Nano-Shield OSP</i> withstands 135 m (443 ft) water head pressure

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7 & 3

09962 Chemical Resistant Coatings
03700 Concrete Restoration

INSTALLATION

Current Guide Specification and Application Instructions contain additional information specific to each application and must be followed. Contact Gemite's Technical Service for information specific to your application.

Surface Preparation

Remove all loose and deteriorated concrete, laitance, dust, dirt and efflorescence. Sandblast or a high pressure waterblast (min. 6,000 psi (410 bar)) should be used.

The active water leaks must be stopped using *Fibre-Patch WP* (water plug) and deeper surface deterioration repaired with *Fibre-Patch OV* (overhead). Leave the surface of *Fibre-Patch OV* rough and wash it thoroughly with high pressure water before application of *Nano-Shield OSP*. *Nano-Shield OSP* should be applied within 48 hours after the surface repair.

Reinforcing Steel

Remove all loose rust from any exposed reinforcing steel and apply two coats of *Fibre-Prime* rustproofing.

Crack Treatment

Any existing cracks must be treated separately using *Cem-Kote Flex ST* or *Cem-Kote Flex Plus*.

Mixing

Mix one bag, 22.7 kg (50 lbs.), with approximately 4.5-5.0 L (1.1-1.3 USG) of water. Use a drill (400-600 rpm) with a mixing paddle. Gradually add the dry material into water and mix until a smooth and lump free mix is obtained. Do not over mix. Adjust the water for brushable consistency or a stiffer consistency for trowel application.

Application

Brush apply *Nano-Shield OSP* in two consecutive coats to achieve the specified thickness - typically 2-3 mm, (80-120 mils). No wetting is required between the coats. The re-coating must be done within 1/2 to 1 hour. When layers over 3 mm (1/8 in) are required, apply a thin layer of *Nano-Shield OSP* first as a bonding agent by brush or broom. Apply second, stiffer consistency, coat of *Nano-Shield OSP* into the wet slurry by trowel. Keep wet edge. Do not build up a layer thicker than 6 mm (1/4 in). Follow current manufacturer's Guide Specifications, Application Instructions and the specified rate of application.

Curing

Moist cure *Nano-Shield OSP* for a minimum of 3 days. Protect the surface from rapid drying. When working under tarps at freezing temperatures, avoid using propane heaters. Electrical heaters should be used to prevent "carbonation" of *Nano-Shield OSP*.

Clean Up

All tools and equipment must be cleaned with water immediately after use. Cured material must be removed mechanically.

AVAILABILITY AND COST

Nano-Shield OSP is available worldwide. Contact Gemite Products Inc. for the name of the nearest Representative or Distributor and current pricing information.

MAINTENANCE

None required.

WARRANTY

A limited twelve (12) month Material Replacement Warranty is available. For details, contact Gemite's head office.

TECHNICAL SERVICE

For advice on suitability of *Nano-Shield OSP* for specific application, specification assistance and application instructions, contact Technical Service: USA 888-443-6483 or Canada 905-672-2020.

Short Specification

The organic solvent resistant, waterproofing coating/topping will be *Nano-Shield OSP* as manufactured by Gemite Products Inc., [USA 888-443-6483] [Canada 905-672-2020]. It will meet all the Technical Data specified in the current *Nano-Shield OSP* Product Data Sheet.