

# NANO- SILICA



## Production Description

NANO- SILICA is a clear **penetrating hardener** that binds loose friable and porous mineral substrates. Penetrates and consolidates, hardens and dust-binds. Increases compressive strength by as much as 25% and abrasion resistance about 2.5 times & almost all abrasion dust is eliminated. Will not trigger or contribute to surface ASR (Alkali Silica Reaction). Easy, quick & cost effective to apply. Zero VOC, non flammable, no odour and safe to use.

The treatment is **permanent** and protects the under-lying substrates from detergents, motor oil, petrol, transmission fluid, solvents, de-icing chemicals and other common chemicals. Increasing the resistance to dirt whilst it makes cleaning easy.

The excellent S<sup>d</sup>-Value ensures optimum water vapour permeability allowing excess moisture to evaporate.

## Typical Applications

Excellent in a wide range of commercial, industrial, agricultural and residential applications. On floors as well as on walls. Including airports, balconies, basements, bridges, car parks, car washes, concrete bridges, driveways, harbour, parking decks, tunnels and other high traffic areas such as factory floors, storage/distribution areas, warehouses, workshops, etc.

A quality clear coating which provides superior performance on mineral substrates such as a concrete, plaster etc. Also on former lime paints as it converts the surface into a natural hard ceramic-like coating (silicon dioxide). After the reaction it cannot peel or flake from substrate.

And an impregnator whose prime purpose is to provide dust-proofing, improved resistance to abrasion, impact and freeze-thaw cycles on concrete.

For use both indoors and out.

## Technical Characteristics

<b>Type:</b>	Organosilicon modified with a stabiliser and surfactant		
<b>Gloss Level:</b>	>10° (matt)		
<b>Cure mechanism:</b>	Consolidation and water repellent.		
<b>Spreading rate:</b>	Normally 6-8 m <sup>2</sup> /Litre. On power-floated surface 10-15 m <sup>2</sup> /Litre. dependent upon surface porosity		
<b>Solids:</b>	11% [industry standard 8%]		
<b>Ph-value:</b>	10.5.		
<b>Density :</b>	1.10g/cm <sup>3</sup>		
<b>Colour:</b>	Clear		
<b>Performance</b>			
<b>Temperature Limitations:</b>	Between -40° and +110°C		
<b>Properties:</b>	Adhesion strength: ≥2MPa (against concrete)		
	Water Absorption:	Without sealer	500g/m <sup>2</sup> /h <sup>0.5</sup>
		With sealer	200g/m <sup>2</sup> /h <sup>0.5</sup>
	Water Vapour	Resistance Factor	µH <sub>2</sub> O 100
	Diffusion:	Air layer	S <sup>d</sup> H <sub>2</sub> O 0.005m (50µm)

## **Application Instructions**

Substrates should be firm, free from laitance and clean. The surface must not be coated as NANO- SILICA should be used on bare mineral substrates only.

The surface should be vacuum cleaned followed by thoroughly cleaning with NANO- CLEANER. Rinse and allow the surface to dry.

Apply wet-on-wet in a continuous film. Use a microfiber pad to spread NANO- SILICA evenly. Keep wet for 10 minutes and then brush 10 – 15 minutes to break surface tension and improve penetration. Keep wet without any dry areas and avoid puddles. Follow by light misting with water, re-scrub and squeegee off excess material from surface. The entire densification process takes about 30 – 45 minutes

Should lower water absorption on floors be required, use NANO- SILOXANE that has a W-Value of 50g/m<sup>2</sup>/h<sup>0.5</sup>

Accepts pedestrian floor traffic after 1-2 hours and light vehicles after 72 hours. One effect of the treatment is that smooth concrete will get a soft gloss or sheen, which can be increased by honing or polishing.

For detailed instructions, see **Treatment of Concrete**.

Note: Product is **corrosive** (Ph 10.5.) Protect glass and metal surfaces to avoid etching. Pay attention that, during application, treated surfaces becomes temporary slippery.

**Application Temperature:** Above 5°C. Never apply when rain is imminent.

**Possible to paint over:** Must be undertaken within 24 hours

**Tack-free time:** 2 Hours (at 20°C and 50% R.H.)

**Clean-up:** Water. Mechanically when dried

**Packages:** Square plastic containers 5 litres, 25litres, 200L barrels, 1000L IBC Containers

**Storage:** 12 months. To prevent curing of the unused portion of an opened packaging, reseal tightly. Should be stored between 5° and 25°C. Protect from freezing.

## **Health and Safety**

**Toxicity:** Product is corrosive when wet. Irritates eyes and skin. Harmful if swallowed. Keep out of reach of children.

**Fire Hazard:** Product is waterborne and presents no fire hazard.

**Waste Disposal:** Must comply with all existing local, regional and national regulations

The information contained here is to the best of our knowledge, but since the circumstances and conditions in which may be used are beyond our control, we do not accept liability for any loss or damage. Our only obligation shall be to replace or pay for any material proved defective.