

SOILFORM NANO-TECHNOLOGIES (PTY) LTD

Third Floor,
Unit 5 Edstan Business Park,
2 Ibhubesi Road,
Riverhorse Valley,
Durban, South Africa

Cell: +27 83 377 9942
Cell: +27 82 447 8131
Fax: +27 86 295 2736
Email: info@soilform.co.za
Website: www.soilform.co.za



ROAD CONSTRUCTION
USING NANO-TECHNOLOGY



PRIME & TACK COATS

'Keeping roads from falling apart'

NANO-PRIME, NANO-TAK & NANO-BOND

PRIME COATS

NANO-PRIME

This nano-polymer modified emulsion usually breaks in 15 to 30 minutes, making a very quick drying prime. The nano-size particles offer improved penetration of up to 8mm into the pavement bases, even dense crushed stone bases. This results in an excellent bond between the pavement surface and base. **NANO-PRIME** is applied at low emulsion spray rates and being water based, there are no emissions of volatiles.

NANO-PRIME BENEFITS:

- Excellent spreading and deep penetration.
- Waterproofs and eliminates moisture susceptibility.
- Tack free surface within 15 - 30 minutes.
- Zero volatile emissions.



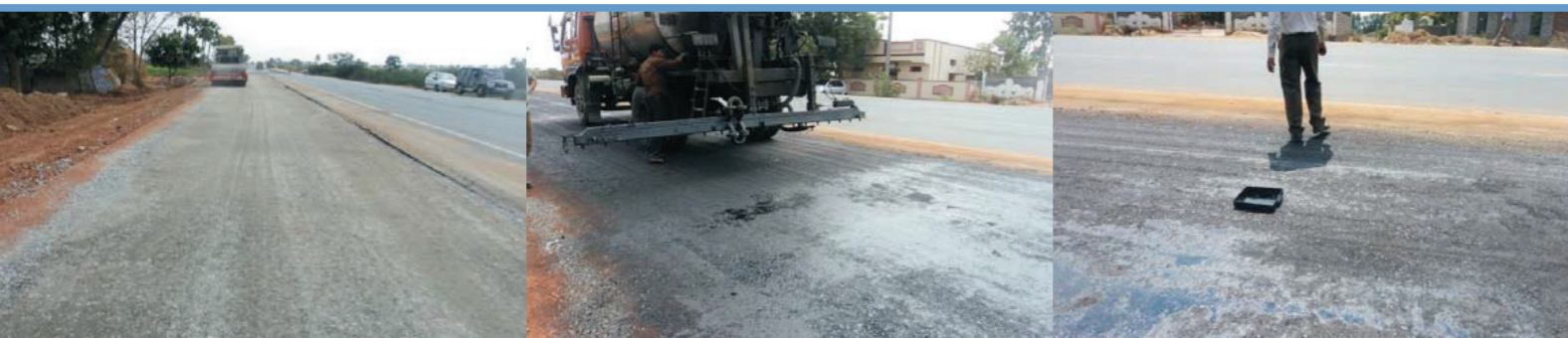
DOSAGE:

WMM/WBM	Nano-Prime : Water (<1000 ppm TDS) Ratio	Cationic bitumen emulsion in kg	* Spray Rate Litres / m ²	No. of Applications
Prime Coat	1 kg : 200 litres	100	1	1

* Single spray 1 litre/sqm (Ensures 100% saturation, penetration and waterproofing of micro-cracks)

MIXING PROCESS:

- Start re-circulation of cationic bitumen emulsion.
- Add water followed with **NANO-PRIME**, continue re-circulation for 10 - 15 minutes.
- Spray the mix,



STORAGE AND SHELF LIFE:

NANO-PRIME should be stored between 5 - 45°C (41 - 113°F) in a shaded, dry area away from sunlight, heat ignition, source of sparks, rain and standing water.

The container lid should be securely fastened every time it is used. Its shelf life is 24 months.

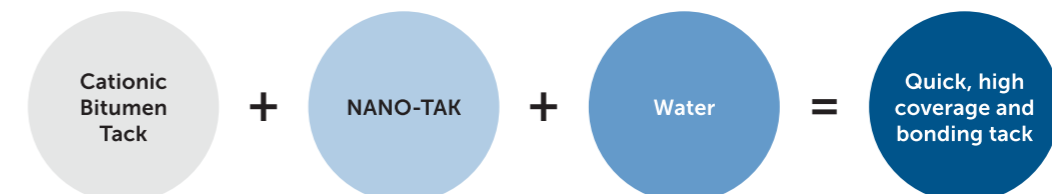
BOND COATS

NANO-TAK

This **nano-technology** silane modified emulsion tack usually breaks in 15 to 45 minutes and is therefore not susceptible to vehicle tyre "pick-up". It offers excellent coverage and creates a highly water resistant surface. **NANO-TAK** is applied at low emulsion spray rates while offering good penetration and strong alkyl siloxane (Si-O-Si) chemical bonding between the aggregates in pavement base and surface.

NANO-TAK has the following advantages:

- Reduces the risk of slippage.
- Reduces bond failures due to water ingress.
- Quick setting thereby reduces vehicle tyre tracking and pick-up.
- High coverage and improved penetration.
- Seals micro-cracks making the base less permeable.
- High bond strengths at lower residual bitumen binder contents.
- Reduces nozzle clogging.



DOSAGE:

WMM/WBM	Nano-Tak : Water (<1000 ppm TDS) Ratio	Cationic bitumen tack in kg	* Spray Rate Litres / m ²	No. of Applications
Tack Coat	1,4 kg : 200 litres	100	0,48	1

* Single spray 1 litre/sqm (Ensures 100% saturation, penetration and waterproofing of micro-cracks)

NANO-BOND

A nano polymer used to increase the compressive and tensile strength of pavement bases and to reduce their water permeability. **NANO-BOND** is often used as a cement replacement in base stabilisation. **NANO-BOND** can also be used with **NANO-SIL** on gravel roads to improve the performance of gravel roads.