

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



DUST SUPPRESSANT

'Environmentally friendly dust suppressant'

NANO-DUST

NANO-DUST is our dust suppressant product using the latest **Nano-Technology**, designed to be used on unpaved roads to reduce dusting, raveling and erosion.

Due to the small particle size and chemical bonding of the product, only a small quantity of the liquid is required to cover a large surface area.

Typical applications include:

- Mine dumps.
- Road and rail trucks during transit.
- Rural roads.
- Roads in the mining and agricultural industries.
- Haul roads.
- Temporary construction roads and deviations.

Dust is the fine material released from an unpaved road surface due to the tyre action of moving vehicles. Excessive dust results in many issues such as:

- Safety, due to poor visibility.
- Comfort.
- Health.
- Environmental especially when surrounding area including homesteads and vegetation is covered in dust.
- Economic, as dusting also contributes to raveling and formation of corrugations in the wearing course.

KEY BENEFITS OF NANO-DUST

In situations where suitable wearing course gravel materials are not readily available, **NANO-DUST** can be used to improve the performance of locally available materials by extending the range of acceptable material shrinkage product and grading coefficient values. This results in a wider range of materials being suitable for use as a gravel wearing course.

- Not affected by climatic conditions.
- Not water soluble.
- Environmentally friendly.
- Less nozzle blockages.
- Resistant to ultra violet (UV) degradation (Spray on application).
- Very strong bonds formed with fine material (Mix in application).
- More efficient due to particle size.
- Saves you money.
- Good penetration
- Chemical bonds formed.

SPRAY ON APPLICATION DETAILS

Spray on application for non-traffic applications to form a transparent surface crust which is resistant to rain and wind.

Mix **NANO-DUST** with water by stirring/circulating for 15 - 20 mins. Then add cationic bitumen and mix/circulate for another 15 - 20 mins.

Method of Application:	Watering cans, knapsack sprayers, mobile water tankers with spray bars or with long pressure hoses for inaccessible slopes.
Dilution Rate:	1 part Nano-dust to 50 parts cationic bitumen emulsion to 500 parts water.
Application Rate (of diluted solution):	1,0 l/sm.
Initial Treatment:	1 No. Application.
Maintenance Treatment:	Typically once a month.

NOTE 01: Ensure water is free of debris and has a PH between 6,5 and 7,5.

NOTE 02: Ensure the road surface is pre-broomed to remove loose material before applying the product.

NOTE 03: In certain situations and blend of **NANO-BOND** and **NANO-SIL** can be used to great effect where water proofing along with increased wearing course strength is required.

MIX IN APPLICATION DETAILS

Mix in application for dust suppression for road applications to bind the finer soil particles to reduce muddy conditions in wet weather and dusty conditions when the road dries out.

Mix **NANO-DUST** with water by stirring/circulating for 15 - 20 mins. Then add cationic bitumen and mix/circulate for another 15 - 20 mins.

Method of Application:	Mix in application during reshaping or re-graveling using a grader, rotavator or disc plough. Particular attention should be given to shape the road to encourage surface storm water runoff. Gravel wearing course to be well compacted after reshaping.
Min. Depth of Application:	100mm.
Dilution Rate:	1 part Nano-Dust to 30 parts water (1:30).
Application Rate (of diluted solution):	To be confirmed.
Initial Treatment:	1 No. mix in application.
Maintenance Treatment:	As and when required during reshaping or re-graveling. Intermediate spray on maintenance applications could be applied if required.

NOTE 01: Ensure water is free of debris and has a PH between 6,5 and 7,5.

NOTE 02: Ensure the road is constructed to the correct falls.

NOTE 03: In certain situations and **GE-NANO** can be used to great effect where water proofing along with increased wearing course strength is required.