

Sika[®] Dust Seal

Dust suppressant and soil stabiliser

Construction

Description

Sika Dust Seal is produced from lignosulphonates with outstanding properties for dust binding. It can be used to eliminate dust problems in connection with unpaved roads, finely divided coal and mineral ores. Sika Dust Seal also has very good soil stabilisation properties on unimproved roads producing a hard and durable surface. It is also recommended for road edge sloping and gives good protection against soil and sand erosion in rural and desert areas.

Uses

Sika Dust Seal has a diverse range of dust binding applications. It can be used on:

- Dirt and gravel roads.
- Unpaved roads.
- Unimproved roads.
- In rural and desert regions.

Sika Dust Seal is used in these areas when the amount of traffic found on unsurfaced roads (where dust is not bound) increases to a point where road maintenance and repair costs escalate.

Advantages

- Forms a hard, firmly bound surface that adds traction, safety and comfort for vehicles.
- Eliminates the sliding hazards of loose aggregate by binding with road soil into hard skid resistant surface.
- Increases the load-bearing strength of all types of road soils, whether wet or dry.
- Binds dust particles to the road. Stops dust clouds thus improving driving comfort and safety.
- Holds the road material on the road and allows building of the road stages. Aggregate is bound into the road surface and cannot be thrown by traffic reducing the hazard of broken windscreens.
- Decreases the rate of water penetration into the road, increases run-off and reduces mud condition.
- Reduces heaves and breakup due to seasonal change in weather conditions.
- Roads sealed with Sika Dust Seal may be used immediately after treatment. This allows the treatment of vital transportation arteries and detours without tying up traffic.
- Can be applied easily and cheaply with equipment commonly available and used for regular road maintenance.

Storage and Shelf Life

Stored at temperatures between 5°C and 35°C in unopened original containers protected from direct sunlight and frost, shelf life is at least one (1) year

Instructions for Use

Application

Sika Dust Seal is best applied when the surface of the soil is slightly damp. If binding soil is to be added, spreading should take place shortly afterwards.

Under normal conditions, best results are obtained when the road surface is watered shortly before the spreading of Sika Dust Seal. Watering should be a light sprinkling of approximately 0.5 to 1 litre of water per square meter.

Application Procedure

Construction

1. Grade the road to remove all corrugations and potholes, and to loosen the road surface material to the desired depth of penetration. Some roads work easier if a light application of Sika Dust Seal is used before the first grading to soften the surface.
2. Blade most of the loose material into windrows on both sides of the road to prevent run-off of valuable Sika Dust Seal and to assure uniform penetration down into the subsurface.
3. After the windrows are formed. Sika Dust Seal is applied by spraying it on the road from a tank truck. The rate of application can be regulated by valves or truck speed with gravity flow equipment. Pressure regulated trucks can also be used. For best results, Sika Dust Seal should be thoroughly mixed with the soil. For stabilisation of the top 70 – 80 mm of the road material, the following steps are commonly used to ensure good mixing:
 - a) Spray 1/3 to 1/2 of the Sika Dust Seal specified for total treatment between windrows.
 - b) Blade windrows to the centre, spreading evenly.
 - c) Spray approximately 1/3 of the total specified Sika Dust Seal on the surface, and blade or mechanically mix with a grader or pulveriser. Save part of the Sika Dust Seal for final top dressing treatment.
4. The road is now ready for the final forming. Since rapid surface drainage normally is important to lignin treated roads, the best type of crown is a modified A type slope of the road. This crown is also favourable when using Sika Dust Seal though it is not critical.

The rounded crown commonly used is not favourable for lignin treated roads, as it allows pools of water to collect on the relatively flat centre part of the road. This standing water can increase the plasticity of the road material to the point where traffic can cause potholes to develop.
5. After the final shaping and formulation of the A type crown, a top dressing of Sika Dust Seal should be used to touch up any dry spots which might have been exposed during grading. This should be a relatively light spray, especially when the soil is wet, in order to avoid excess surface plasticity and run-off of valuable binder.
6. The final step is compaction. This is best done with a multiple wheeled roller, but very satisfactory results can be obtained by letting traffic do the compaction. Compaction should be done before Sika Dust Seal dries ie. while the road material is still somewhat plastic.

Sika Dust Seal can be used also for stabilising base courses prior to covering the bituminous or concrete wearing mat, because it adds stability to the sub-surface and useful life to the mat. In this case it is desirable to add aggregate and stabilise the top 250 – 300 mm of the road to provide a good hard wearing surface. The strength of a well graded soil is increased in direct proportion to the quantity of Sika Dust Seal added.

Maximum strength improvement comes with between 2 and 3 percent by weight of Sika Dust Seal in the soil.

Consumption

The quantity of Sika Dust Seal used depends largely on the kind of road required and the road material itself.

Soil Classification	First Spreading Sika Dust Seal 1/m ²	Maintenance Spreadings Sika Dust Seal 1/m ²
Mainly dust suppression		
- plastic	0.25 – 0.50	0.15 – 0.25
- slightly or non-plastic	0.50 – 0.80	0.25 – 0.40
Mainly soil stabilisation	0.80 – 1.60	0.30 – 0.50

Technical Data (Typical)

Form	Liquid
Colour	Brown
Density (20°C)	1.07kg/litre approximately
pH Value (20°C)	7.0 ± 1.0
Packaging	205 litre drum Bulk deliveries

Handling Precautions

- Avoid contact with skin and eyes.
- Wear protective gloves and eye protection during work.
- If skin contact occurs, wash skin thoroughly.
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.
- A full Material Safety Data Sheet is available from Sika on request.

Important Notification

The information, and, in particular, the recommendations relating to the application and end-use of Sika's products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The proprietary rights of third parties must be observed. All orders are accepted subject of our terms and conditions of sale. Users should always refer to the most recent issue of the Technical Data Sheet for the product concerned, copies of which will be supplied on request.

PLEASE CONSULT OUR TECHNICAL DEPARTMENT FOR FURTHER INFORMATION.



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