



# AZUL HOLDINGS

## **ROAD-TEX**

### **ROAD STABILISATION BINDER, DUST SUPPRESSANT & GRAVEL PRESERVER**

## ***APPLICATION MANUAL***

**WARNING: Do not use ROAD-TEX for other purposes than those stated in this Manual.**

#### **PRODUCT DESCRIPTION:**

ROAD-TEX is a uniquely formulated lignosulphonate-based binder and gravel preserver. As natural polymers, lignosulphonates possess strong binding abilities making the product suitable for binding coarse, low or non-plastic materials starting at application rates of between 0.5 – 1% by weight.

The application of ROAD-TEX to the wearing course layer of a road will significantly improve the treated layers resistance to abrasion and assist in reducing the material loss from the surface and associated dust. The application of ROAD-TEX will also further retard the formation of other associated gravel road defects such as corrugations, potholes, mud etc.

Being a true dust palliative ROAD-TEX can be applied directly to the surface of an already constructed road or any other area for short term dust suppression.

ROAD-TEX application will require periodic rejuvenations to the surface of the road to maintain reduced dust levels with rejuvenation periods being determined by traffic volumes, rainfall, etc. The ROAD-TEX product is not sensitive to over or under spraying and does not require specialised machinery or equipment for application, a standard water bowser with spray bar can be used. Additionally, no specialised procedures are needed if the maintenance should be required and if the provided surface is wet, it can be bladed.

#### **PRODUCT APPLICATIONS:**

- Streets and roads in rural and residential areas
- Mine and construction haul roads
- Roads in game reserves
- Road shoulders
- Construction sites
- Quarries
- Mine dumps and workings
- Temporary bypasses
- Dust sensitive agricultural and forestry roads
- Parking areas
- Sports fields

## PRODUCT ADVANTAGES:

- Improved road standards - dust-free road surfaces ensure safer and more comfortable driving.
- Cost-effectiveness - requires the minimum construction and road preparation efforts to create a positive life cycle/cost ratio.
- Easy application - spray with standard spray equipment, without the necessity of specialised equipment.
- Easy and affordable maintenance - normal maintenance to the surface can be achieved with the minimum expertise and standard equipment. Rejuvenation can be done as and when required.
- Quick drying - penetrates rapidly and the road can be opened to traffic immediately.
- Improved quality of life - less dust.

## ENVIRONMENTAL:

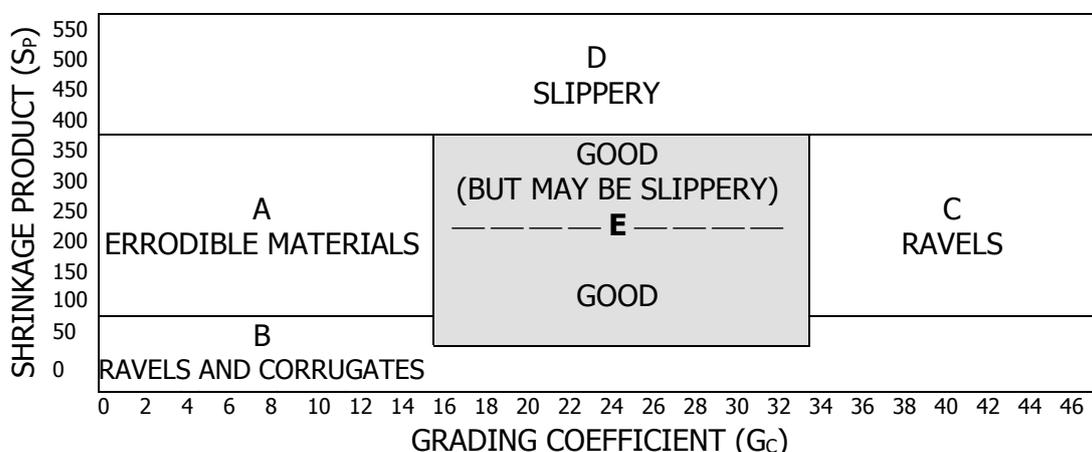
ROAD-TEX is environment friendly and poses no threat to flora or fauna at recommended application rates. According to OECD method No. 203, ROAD-TEX is classified as non-fish-toxic. ROAD-TEX is also classified as inherently biodegradable according to OECD method No. 302B and at the same time ROAD-TEX is not classified as an eye or skin irritant. Detailed environmental reports including Material Safety Data Sheets are available.

## SUITABLE SOILS:

ROAD-TEX can be used on a variety of materials of differing compositions and characteristics. The following parameters have been adapted to serve as guidelines.

Characteristic	Rural	Urban	Haul
Maximum size	37.5mm	37.5mm	75 - 100mm
Oversize index	#5%	0	#10%
Shrinkage product	50 - 400	50 - 400	50 - 400
Grading coefficient	16 - 34	16 - 34	16 - 34
Soaked CBR at 95% MOD AASHTO	≥15	≥15	≥40
Hardness (Tretton Impact Value)	20 - 65	20 - 65	20 - 65

ROAD-TEX improves the performance and limits dust on a variety of material types offering a larger envelope of suitable materials due to its strong binding abilities. The formation of typical defects related to the use of inappropriate materials will be retarded with the use of ROAD-TEX and their predicted performance is illustrated as follows:



## ROAD-TEX APPLICATION RATES:

<b>Mix-in application (150 mm)</b>			
<b>Vehicles per day</b>	<b>Climate</b>	<b>ROAD-TEX (kg solids/m<sup>2</sup>)</b>	
		<b>Shrinkage product &lt; 50</b>	<b>&gt; 50</b>
< 150	Dry	1.2	1.0
	Wet	1.2	1.2
> 150	Dry	1.5	1.2
	Wet	1.5	1.5
Haul road	—	3.0	3.0
<b>Surface application (spray on)</b>			
Rural / residential road		0.35 - 0.80 kg solids/m <sup>2</sup>	
Haul road		0.05 - 0.1 kg solids/m <sup>2</sup> as part of routine watering programme until required result	

## ROAD-TEX - DISSOLVING INSTRUCTIONS (POWDER):

The following procedure should be used irrespective of type of water truck and agitation used.

- Fill water truck to  $\pm 30\%$  of volume with water.
- Add the powder slowly. The addition should be carried out continuously with a fine and even powder stream so that the formation of lumps is avoided.
- After the addition of all the powder, check that there are no lumps floating on the surface (any lumps should be broken up).
- Add remaining water and agitate to mix thoroughly. This can be achieved by the backward and forward movement of the water truck.

**NOTE:** The best way to make a solution is to pump the water in the tank through a hose and spray it back in the top of the tank. The powder should be poured into the water spray.

## ROAD-TEX - PRODUCT APPLICATION:

### Surface treatments (Spray on application)

- Road structure - Well compacted base or wearing coarse layer, density  $> 93\%$ .
- Ensure the road surface is firm, free of excess loose material and with sufficient camber to ensure proper drainage.
- Lightly water the road ( $0.5\text{l/m}^2$ ) to assist penetration.
- Apply the product in multiple applications over a period of 1 to 2 days using a 10 – 15% solution of product with water until the required product application rate per square metre has been achieved.
- Avoid run-off and pooling.
- For haul roads etc., product should be continually applied at  $0.05\text{kg/m}^2$  as part of the normal water programme until the required level of dust suppression is maintained. Intervals between spraying will increase as the product takes effect.

### Mix-in treatment

- Rip the road to the required depth.
- Large clods to be broken to maximum 50 mm.

- Calculate the approximate volume of water required to reach OMC.
- Add 90% of the required product application rate to required quantity of water.  
*(The bitumen emulsion will also be added with the ROAD-TEX.)*
- Apply the solution onto the prepared surface in 2 to 4 applications, mixing thoroughly between applications.
- Shape to required camber.
- Compact with pneumatic or vibratory roller to required density.
- Apply remaining 10% product to the road surface while still damp.

### ROAD-TEX PRODUCT REJUVENATION:

- Roads treated with ROAD-TEX will require periodic rejuvenation to ensure continued dust suppression. Intervals between rejuvenation will depend on the material characteristics, application method, climatic conditions and traffic.
- Rejuvenation rates and intervals may vary as above, but an average of 0.5 kg/m<sup>2</sup> of solid product should be sprayed onto the road, preferably after blading, each year after initial application.
- Rejuvenation should be carried out at the beginning of the dry season.
- Depending on operating conditions, the application may be split into two applications at three monthly intervals.
- On mine haul roads, the continual deposition of dust on the haul road will require frequent rejuvenation. An application of 0.4 kg/m<sup>2</sup>/month is recommended.

### MAINTENANCE:

- The type and frequency of maintenance will depend on the material characteristics, climate, application method and traffic and should be carried out before significant deterioration has occurred.
- In cases of isolated deformation, product can be mixed with gravel and compacted into the affected area.
- If grader maintenance is required, the road must be lightly sprayed with water in order to soften the crust and then bladed according to accepted techniques.  
*Dry blading will damage the surface and lower the riding quality.*
- Untreated material on the sides of the road must not be bladed onto the road as this will result in potholing, dustiness and slippery conditions after rainfall.

### ROAD-TEX APPLICATION PICTURES:





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