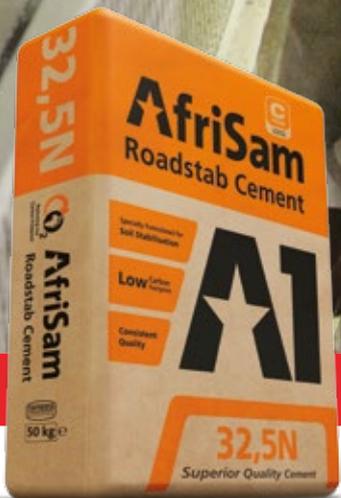


# Your guide to the use of ROADSTAB CEMENT



[www.afrisam.com](http://www.afrisam.com)

Creating Concrete Possibilities



# ROADSTAB CEMENT



## A masterpiece of cement engineering

AfriSam Roadstab Cement is a high quality composite cement for use specifically in road stabilisation, specially formulated to improve the engineering properties of soil.

AfriSam Roadstab Cement has been developed and tested to achieve superior performance across a broad range of road material types, reducing the plasticity of the soil. It offers consistent strength and durability to road sub-bases, making it ideal for road construction.

## Properties:

- It improves the engineering properties of soil by reducing plasticity and enhancing the strength of road based materials.
- It ensures durability, stability and strength.
- It achieves superior stability across a broad range of road materials.
- Its longer setting times make it ideal for road stabilisation as it allows for adequate time to place and compact material.

## Performance

Roadstab Cement's binder composition fulfils the following requirements for a stabilising agent:

Table 1

Typical Physical Characteristics	
Relative density, g/ml	3,05
Loose bulk density when fluidised, kg/m <sup>3</sup>	1 100
Loose bulk density after consolidation, kg/m <sup>3</sup>	1 500

Table 2

Typical Chemical Composition		
Mineral components, %	CEM II B-L 32,5 N	CEM V A (S-V) 32,5
Limestone	21–35	–
FA	–	18–30
GGBFS	–	18–30

Table 3

Typical performance in relation to SANS 50197-1			
Criteria	SANS 50197-1 Class 32,5	Typical performance	
		CEM II B-L	CEM V A(S-V)
<b>Physical</b>			
7-day strength, MPa	≥16	>30	>20
28-day strength, MPa	≥32,5 ≤52,5	42	42
Initial setting time, minutes	≥60	177	244
Soundness: Le Chatelier expansion, mm	≤10	1	1
<b>Chemical</b>			
Sulphate content, %	≤3,5	2,7	2,3
Chloride content, %	≤0,1	0,01	0,04

These properties make it the ideal choice for road stabilisation.

## AfriSam Quality Guaranteed

AfriSam stakes its reputation on consistently high quality products and our Roadstab Cement is no exception.

- AfriSam manufacturing facilities are ISO 9001 certified.
- We have the highest possible Quality Management Systems.
- AfriSam Roadstab Cement fully complies with the SANS 50197 cement specification for common cements.
- The composition of the cement is constantly monitored and maintained to guarantee high quality performance.

## About stabilisation

Stabilisation – the process of mixing cementitious material with granular material in predetermined proportions to improve the engineering properties of the granular material. Stabilisation projects are always site-specific requiring standard test methods to develop specific solutions. The selection of a cement type and content should be based on laboratory tests of the granular materials to be stabilised.

Table 4

Laboratory tests to be conducted before stabilisation	
Test method number	Description
TMH1 A1 (a)	Wet preparation and sieve analysis of gravel, sand and soil samples.
TMHA2, A3 and A4	Determination of the liquid limit, plastic limit, plasticity index and linear shrinkage of soils.
Improved CSIR	Developed method: Determination of the initial consumption of cement required for soil modification.
TMH1 A7	Determination of the maximum dry density and optimum moisture content of gravel soil and sand.
TMH1 A8	Determination of the California Bearing Ratio of untreated soil and gravels.
TMH1 A13T	Determination of the unconfined Compressive Strength of soils and gravels.
TMH A16T	Determination of the Indirect Tensile Strength of soils and gravel.

AfriSam recommends the use of SANAS accredited laboratories.

### Compaction and curing

Compaction should start immediately after uniformly spreading the stabiliser and mixing it into the soil. The working time is influenced by the cement type, soil type and ambient conditions. An indication of working time may be obtained by establishing a strength vs time relationship for the stabilised soil.

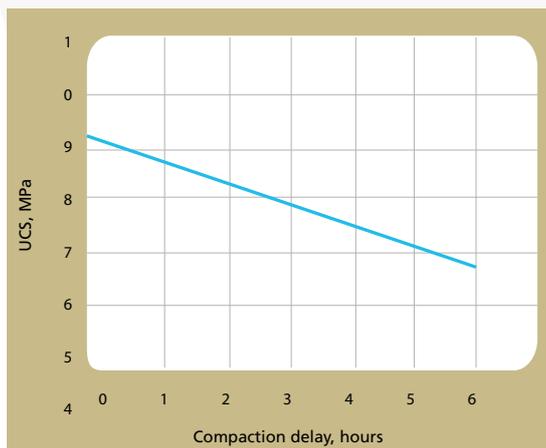


Figure 1: Typical strength vs time relationship

The stabilised layer is cured for three to seven days after construction to allow the layer to harden before subsequent layers are placed. Curing is necessary to ensure that:

- The required strength is achieved.
- Adequate water is available for hydration.
- Drying shrinkage is limited at early stages.

### Curing is done by means of:

- Keeping the surface moist through light sprinkling and rolling when necessary.
- Sealing the compacted layer with a bituminous prime coat.

### The choice for every job

AfriSam's Roadstab offers consistent strength, workability and durability, making it ideal for road stabilisation.



### Tips for storage

- Store in a dry enclosed area.
- Store off the floor on a wooden pallet or plastic sheeting.
- Keep doors and windows closed to eliminate airflow.

### Health and safety

Occupational exposure limits to cement are recommended in the Occupation Health and Safety Act summarised as follows:

- The recommended limit for total inhalable dust is 10mg/m<sup>3</sup>, and the respirable recommended limit is 5mg/m<sup>3</sup>.
- Direct skin contact for extended periods can result in severe burns.
- Suitable attire should be worn to prevent dust inhalation and direct skin contact.

A detailed safety data sheet is available on request.

### Client support

AfriSam offers a unique and highly developed sales support, technical service and supply infrastructure. This is to ensure that each of our customers can rest assured that every product is of the highest quality. Our fully-equipped laboratory is run by qualified technicians who are ready to assist with specific requirements.

### AfriSam is committed to sustainable development

AfriSam is committed to sustainable development and, as such, we strive towards:

- Legal compliance at all times.
- Optimal use of natural resources.
- Waste reduction.
- Reduced use of fossil fuels.
- Minimising environmental degradation and pollution.
- Employee training and stakeholder engagement.

### CO<sub>2</sub> rating

To enable consumers to make informed purchasing decisions, all AfriSam bags now reflect the carbon rating of each product.

### Delivering on quality in a responsible way

Through our commitment to sound environmental stewardship, we offer high quality products and customer peace of mind.

**AfriSam Customer Service**

PO Box 6367

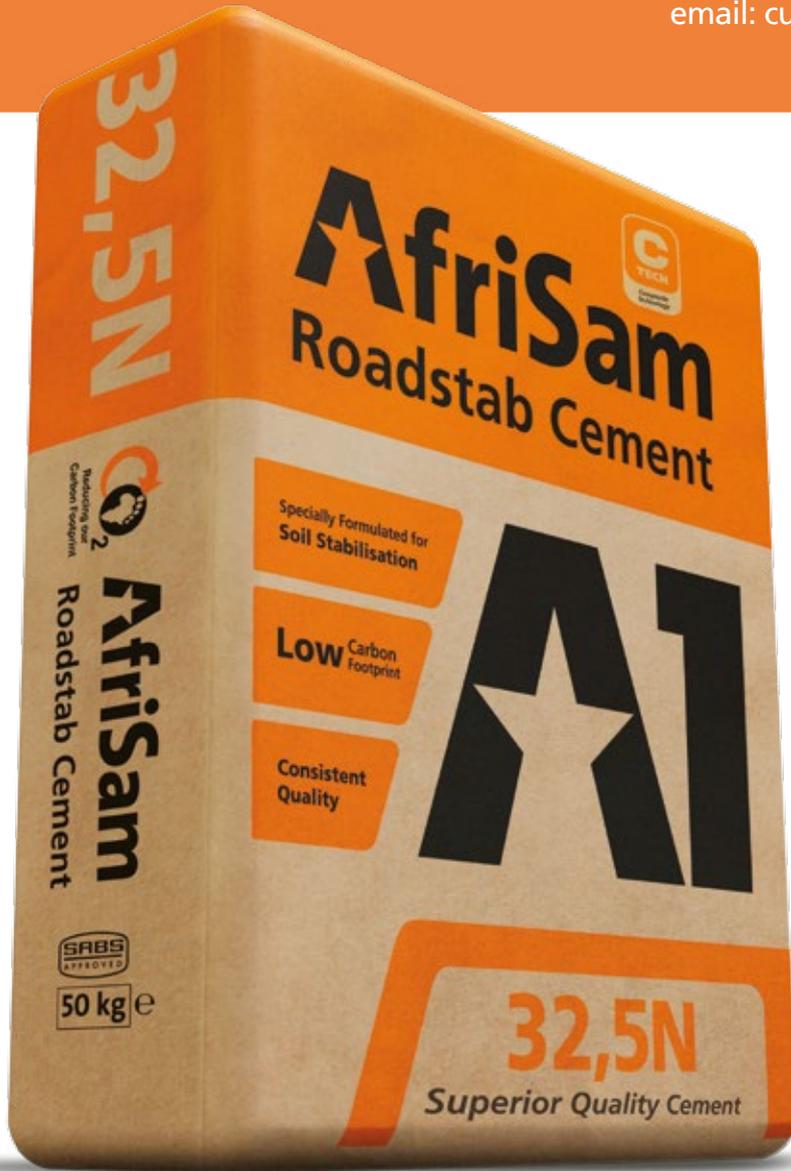
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# OUR QUALITY PROMISE



With the planet as one of our core values, we assess the carbon footprint of each and every one of our operations and products while actively striving to drive down our impact on the environment.

30/07/2014

AfriSam's commitment to superior performance gives customers the peace of mind that comes with guaranteed technical excellence, top quality products, sustainability and continuous innovation.