

# PRODUCT DATA SHEET

## Sika® Sigunit® L-500 AFI SA

### SHOTCRETE ACCELERATOR

#### DESCRIPTION

Sika® Sigunit® L-500 AFI SA is a liquid, high performance, alkali free, setting and hardening accelerator for shotcrete. Suitable for use in hot and tropical climatic conditions.

#### USES

Sika® Sigunit® L-500 AFI SA is suitable for both dry and wet spraying processes and is used for:

- Support at the face whilst advancing tunnels and mines
- Rock, slope and trench stabilisation
- High quality lining shotcrete

#### CHARACTERISTICS / ADVANTAGES

Sika® Sigunit® L-500 AFI SA has the following characteristics and advantages:

- High early strength development
- Alkali-free
- Minimal strength loss of the accelerated concrete
- No pollution of groundwater by leached out alkalis
- Distinct reduction of rebound and dust
- Improved bond of shotcrete to the substrate facilitating overhead spraying
- Chloride-free, no negative affect on steel reinforcement

#### APPROVALS / CERTIFICATES

Sika® Sigunit® L-500 AFI SA follows the requirements of EN 934-5 and EFNARC European Specification for Sprayed Concrete

#### PRODUCT INFORMATION

<b>Composition</b>	Blend of special inorganic materials
<b>Packaging</b>	1000 L flowbin. Bulk supply in tanker trucks possible on request
<b>Appearance / Colour</b>	Yellowish liquid
<b>Shelf life</b>	3 months from date of production if stored properly
<b>Storage conditions</b>	Store in original, undamaged and sealed containers, protected from direct sunlight and frost and kept at temperatures between +5 °C and +35 °C. After prolonged storage the performance of Sika® Sigunit® L-500 AFI SA should be tested and the material should always be stirred before use. Containers must be cleaned before refilling. Containers must always be stored firmly closed.
<b>Density</b>	~1.35 kg/l (+25 °C)
<b>pH-Value</b>	~2.5
<b>Total Chloride Ion Content</b>	≤ 0,10 % by mass (chloride free) (EN 480-10)
<b>Equivalent Sodium Oxide</b>	≤ 1.0 % by mass (EN 480-12)

## TECHNICAL INFORMATION

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### Concrete Mix Design

#### *Aggregate gradation for a pumped concrete:*

Usually 8 mm maximum aggregate size.

The suitability of the proposed mix design must first be tested in field trials before the commencement of the project.

#### *Concrete consistency (dependent on spraying equipment used):*

Flow table spread size  $\geq 45$  cm; w/c ratio  $\leq 0.48$

The use of an appropriate superplasticiser, such as from the Sika® ViscoCrete® range is essential. Refer to the Sika Technical Department for advice.

Temperature of fresh concrete:  $> +15^{\circ}\text{C}$

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## APPLICATION INFORMATION

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### Recommended Dosage

4 - 8 % by weight of binder for layer thicknesses of up to 10 cm in one pass. Higher dosages by weight of binder can be used depending on the mix design, raw materials, climatic conditions and concrete requirements.

We recommend to dosage by peristaltic pump such as a Sika® Aliva-403 Pump.

Trial mixes must be performed to establish the exact dosage rate required.

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## IMPORTANT CONSIDERATIONS

The effect of the accelerator depends on the content, age and type of cement as well as the shotcrete temperature. Furthermore, the shotcrete quality is widely affected by the substrate, the applied layer thickness, the spraying process, the quality of equipment and the application technique.

The w/c ratio of the base shotcrete mix in the wet spraying process, and the quantity of gauging water in the dry spraying process are also parameters influencing the acceleration effect of Sika® Sigunit® L-500 AFI SA.

When using sulphate resistant cements strength development can be slower.

Sika® Sigunit® L-500 AFI SA is not compatible with alkaline shotcrete accelerators.

Before using Sika® Sigunit® L-500 AFI SA the accelerator hoses must be cleaned thoroughly.

The use of Sika® Sigunit® L-500 AFI SA requires technically correct dosing and conveying / spraying technology. Metal parts of the pump that come into direct contact with Sika® Sigunit® L-500 AFI SA must be made of stainless steel.

Contact your local Sika company for any additional technical support required.

## BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

## LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika 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 accordance with Sika's recommendations. 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 user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

### SIKA NORTHERN GULF

Bahrain / Qatar / Kuwait  
Tel: +973 177 38188  
sika.gulf@bh.sika.com  
gcc.sika.com

### SIKA SOUTHERN GULF

UAE / Oman / SIC  
Tel: +971 4 439 8200  
info@ae.sika.com  
gcc.sika.com

### SIKA SAUDI ARABIA

Riyadh / Jeddah / Damman  
Tel: +966 11 217 6532  
info@sa.sika.com  
gcc.sika.com



ISO 9001: Sika UAE LLC,  
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All products are supplied  
under a management  
system certified to conform  
to the requirements of the  
quality, environmental and  
occupational health &  
safety standards ISO 9001,  
ISO 14001 and OHSAS  
18001.

### Product Data Sheet

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