

# PRODUCT DATA SHEET

## Sika® Sigunit® L-5401 AF

### SHOTCRETE ACCELERATOR

#### DESCRIPTION

Sika® Sigunit® L-5401 AF is a high-performance liquid, alkalifree, set accelerator for shotcrete.

#### USES

Sika® Sigunit® L-5401 AF is suitable for both dry and wet spraying processes and it is used for:

- Excavation stabilisation in tunnelling and mining
- Rock, slope and trench stabilisation
- High quality lining shotcrete

#### CHARACTERISTICS / ADVANTAGES

Sika® Sigunit® L-5401 AF has the following characteristics and advantages:

- High early strength development
- Alkali-free
- Distinct reduction of rebound and dust
- Improved bond of shotcrete to the substrate
- Chloride-free, no negative affect on reinforcement steel

#### PRODUCT INFORMATION

<b>Composition</b>	Inorganic aluminium complexes
<b>Packaging</b>	IBC (pallet tank)
<b>Appearance / Colour</b>	Off white suspension
<b>Shelf life</b>	Three months from date of production if stored in original, undamaged and sealed containers.
<b>Storage conditions</b>	Storage at temperatures between 5°C and 35°C. Protect from direct sunlight, frost and contamination. Use clean containers when delivered in bulk. In case of separation of Sika® Sigunit® L-5401 AF the suspension has to be homogenised before using. Sika® Sigunit® L-5401 AF must not be stored in standard steel containers.
<b>Density</b>	~ 1.44 kg/L
<b>Specific Advice</b>	Sika® Sigunit® L-5401 AF is added at the nozzle. Accurate and constant dosing into the concrete flow is essential.

<b>Concrete Mix Design</b>	The suitability of the proposed mix design must be tested in field trials before commencement of the project. High quality shotcrete requires a w/c ratio of less than 0.5. Temperature of basic mix must be higher than 15°C.
<b>Substrate</b>	The substrate must be clean, free of loose stones and free of water under hydrostatic pressure.
<b>Recommended Dosage</b>	The correct dosage must be determined by preliminary testing. For layer thicknesses of up to 100 mm applied in one pass, the recommended accelerator dosage is between 5 % and 9 % by weight of binder. Lower ambient and basic mix temperatures require higher dosage of accelerator.

## IMPORTANT CONSIDERATIONS

The accelerator's effect depends on the content, age and type of cement, as well as on 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 basic concrete 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-5401 AF.

When using sulphate resistant cements strength development can be slower.

Sika® Sigunit® L-5401 AF is not compatible with alkaline shotcrete accelerators. Before using Sika® Sigunit® L-5401 AF the accelerator hoses must be cleaned thoroughly. The use of Sika® Sigunit® L-5401 AF requires technically correct dosing and conveying / spraying technology. Metal parts of the pump and piping that come into direct contact with Sika® Sigunit® L-5401 AF must be made of stainless steel.

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

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.

## BASIS OF PRODUCT DATA

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

## LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

## 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

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