

## PRODUCT DATA SHEET

# Sika® Sigunit® L-5401 AF

Alkali free Liquid Shotcrete Accelerator for Wet and dry spraying

### DESCRIPTION

Sika® Sigunit® L-5401 AF is a high-performance alkali and chloride free liquid set accelerator for shotcrete. Suitable for wet and dry spraying, providing high early strength development, reduced dust and rebound together with good substrate adhesion.

### USES

Accelerating shotcrete for:

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

### FEATURES

- Suitable for dry and wet spraying processes
- High early strength development
- Alkali-free
- Minimal strength loss of the accelerated concrete
- No pollution of groundwater by leached out alkalis
- Reduced rebound and dust
- Improved adhesion of shotcrete to the substrate
- Chloride-free (does not induce reinforcement corrosion)

### PRODUCT INFORMATION

<b>Composition</b>	Inorganic aluminium complexes
<b>Packaging</b>	Bulk supply IBC
<b>Shelf life</b>	3 months from date of production
<b>Storage conditions</b>	Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Always refer to packaging / labelling. Protect from direct sunlight, frost and contamination. Use clean containers when delivered in bulk. If separation of Sika® Sigunit® L-5401 AF occurs, the suspension must be completely mixed before using. Do not store in standard steel containers.
<b>Appearance and colour</b>	Milky white liquid suspension
<b>Density</b>	~ 1,45 kg/L (at +20 °C)
<b>Conventional dry material content</b>	~ 55 %
<b>Viscosity</b>	≤ 400 mPa·s at 20 °C
<b>Total chloride ion content</b>	≤ 0,1 %
<b>Equivalent sodium oxide</b>	≤ 1,0 %

# TECHNICAL INFORMATION

<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 and a flow table spread of more than 500 mm. Temperature of basic mix must be >15 °C
<b>Substrate</b>	The substrate must be clean, free of loose stones and free from hydrostatic water pressure.

# APPLICATION INFORMATION

<b>Recommended dosage</b>	The correct dosage must be determined by preliminary testing. For layer thicknesses of up to 10 cm applied in one pass, the recommended accelerator dosage is between 6 % and 9 % by weight of binder. Lower ambient and basic mix temperatures require higher accelerator dosages.
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## 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.

## IMPORTANT CONSIDERATIONS

- The accelerator's effect depends on the content, age and type of cement, as well as on the shotcrete temperature.
- 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.

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## ECOLOGY, HEALTH AND SAFETY

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

## 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 exact product data and uses.

## 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.

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