

## PRODUCT DATA SHEET

# Sika® Sigunit® L-5601 AF

### ALKALI-FREE LIQUID SHOTCRETE ACCELERATOR

#### PRODUCT DESCRIPTION

Sika® Sigunit® L-5601 AF is a high-performance liquid, alkali-free set accelerator for wet or dry shotcrete.

#### USES

Sika® Sigunit® L-5601 AF is suitable shotcrete accelerator for both wet and dry shotcrete applications including:

- General construction work
- Excavation stabilisation of face and within tunnel and mine construction
- Rock, slope, and trench stabilization
- High quality lining shotcrete

#### CHARACTERISTICS / ADVANTAGES

- High early strength development
- Reliable long-term strength and durability
- Easier overhead spraying by improved adhesion of shotcrete to substrate
- Minimal strength loss of the accelerated concrete
- Distinct reduction of rebound and dust
- Improved bond of shotcrete to the substrate
- Suitable for steel reinforced shotcrete and substrates
- Suitable for synthetic and steel fiber reinforced shotcrete
- Alkali-free; Avoids pollution and leachate of alkalis into ground and surface water

Sika® Sigunit® L-5601 AF does not contain intentionally added chlorides.

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Inorganic aluminium complexes
<b>Packaging</b>	55 US gal drum (208 L) 275 US gal tote (1040 L) Bulk delivery
<b>Shelf Life</b>	Shelf life when stored in dry warehouse conditions between 41°F to 86°F (5°C to 30°C) is 6 months from date of manufacture.
<b>Storage Conditions</b>	Sika® Sigunit® L-5601 AF should be stored at temperatures between 41°F - 86°F (5°C - 30°C) in a dry warehouse in original, undamaged, and sealed container. Protect from direct sunlight, frost and contamination. Use clean containers when delivered in bulk. In case of separation in product, the suspension has to be homogenised before using. Product must not be stored in standard steel or plastic containers. It should be noted that if stored in normal sealed container, this may affect overall performance of the admixture. Additionally, if frozen, product cannot be reconstituted and must be discarded according to applicable local laws.

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Appearance / Color	Whitely Suspension Liquid
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Specific gravity	Approx. 1.46
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## APPLICATION INFORMATION

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### Recommended Dosage

The correct dosage must be determined by preliminary testing. Pre-trials should be executed to confirm correct dosage with the equipment and shotcrete that is intended to be used. The recommended accelerator dosage is between 4% and 9% by weight of cementitious/binding material. Lower ambient and basic mix temperatures require higher dosage of accelerator. The set accelerating effect of product depends on cement type, cementitious content, age of mix, type of substrate, shotcrete methods used, temperature of the shotcrete, and the application area.

The performance of product is highly dependant upon temperature, the water-cement ratio of the shotcrete mix in the wet spray process, and the amount of water added during spraying in the dry spray process.

To the extent specialized materials (such as microsilica) are specified, extreme ambient project conditions are encountered, or other unusual project conditions require special consideration outside the recommended dosage, please contact your Sika STM Technical Service Representative, prior to using the Sika admixture.

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### Mixing

Sika® Sigunit® L-5601 AF should be mixed thoroughly prior to use. Sika® Sigunit® L-5601 AF is dosed and added on-site by a liquid dispensing system. Optimum dispersion in the shotcrete is governed by nozzle configuration and shotcreting techniques.

#### Important information:

- The accelerator hose must be thoroughly cleaned before using Sika® Sigunit® L-5601 AF.
- Compatible with membrane pumps, rotor-stator pumps, peristaltic pumps, and gear pumps.
- Do not use any pumps that utilize ball-and-seat type valves, piston pumps, or pressure tanks.
- Metal parts of the dosage equipment and/or pump coming into direct contact with Sika® Sigunit® L-5601 AF must be made of stainless steel.
- Do not use a filter on the accelerator hose, it will get clogged and obstruct flow.

The use of Sika® Sigunit® L-5601 AF requires skilled and technically correct installation of dosing and conveying equipment. Please contact your Sika STM Technical Representative for further information.

#### Combination with other Sika admixtures:

Sika® Sigunit® L-5601 AF can be used in combination with other Sika admixtures and can be successfully used in mix designs utilizing supplementary cementitious materials. For accurate combinations, dosages, and recommendations please contact your Sika STM Technical Representative for further information.

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## BASIS OF PRODUCT DATA

Results may differ based upon statistical variations depending upon mixing methods and equipment, temperature, application methods, test methods, actual site conditions and curing conditions.

Always perform test batches to establish mix design and mix properties and performance prior to use.

## LIMITATIONS

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-5601 AF.

When using sulphate resistant cements strength development can be slower.

Sika® Sigunit® L-5601 AF is not compatible with alkaline shotcrete accelerators. Before using Sika® Sigunit® L-5601 AF the accelerator hoses must be cleaned thoroughly.

The use of Sika® Sigunit® L-5601 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-5601 AF must be made of stainless steel.

Please contact your Sika STM Technical Representative for any additional technical support required.

## ENVIRONMENTAL, HEALTH AND SAFETY

For further information and advice regarding transportation, handling, storage and disposal of chemical products, user should refer to the actual Safety Data Sheets containing physical, environmental, toxicological and other safety related data. User must read the current actual Safety Data Sheets before using any products. In case of an emergency, call CHEMTREC at 1-800-424-9300, International 703-527-3887.

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### Product Data Sheet

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## OTHER RESTRICTIONS

See Legal Disclaimer.

## LEGAL DISCLAIMER

- KEEP CONTAINER TIGHTLY CLOSED
- KEEP OUT OF REACH OF CHILDREN
- NOT FOR INTERNAL CONSUMPTION
- FOR INDUSTRIAL USE ONLY
- FOR PROFESSIONAL USE ONLY

Prior to each use of any product of Sika Corporation, its subsidiaries or affiliates ("SIKA"), the user must always read and follow the warnings and instructions on the product's most current product label, Product Data Sheet and Safety Data Sheet which are available at [usa.sika.com](http://usa.sika.com) or by calling SIKA's Technical Service Department at 1-800-933-7452. Nothing contained in any SIKA literature or materials relieves the user of the obligation to read and follow the warnings and instructions for each SIKA product as set forth in the current product label, Product Data Sheet and Safety Data Sheet prior to use of the SIKA product.

SIKA warrants this product for one year from date of installation to be free from manufacturing defects and to meet the technical properties on the current Product Data Sheet if used as directed within the product's shelf life. User determines suitability of product for intended use and assumes all risks. User's and/or buyer's sole remedy shall be limited to the purchase price or replacement of this product exclusive of any labor costs. **NO OTHER WARRANTIES EXPRESS OR IMPLIED SHALL APPLY INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SIKA SHALL NOT BE LIABLE UNDER ANY LEGAL THEORY FOR SPECIAL OR CONSEQUENTIAL DAMAGES. SIKA SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS PRODUCT IN A MANNER TO INFRINGE ON ANY PATENT OR ANY OTHER INTELLECTUAL PROPERTY RIGHTS HELD BY OTHERS.**

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