

## PRODUCT DATA SHEET

# Sika® Sigunit® L-5601 AF

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## ALKALI-FREE LIQUID SHOTCRETE ACCELERATOR

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### PRODUCT DESCRIPTION

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

### USES

Sika® Sigunit® L-5601 AF is a suitable shotcrete accelerator for both wet and dry shotcrete applications including, but not limited to:

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

### CHARACTERISTICS / ADVANTAGES

Sika® Sigunit® L-5601 AF provides the following characteristics and benefits:

- High early strength development,
- Improved bond of shotcrete to the substrate,
- Easier overhead spraying by improved adhesion of shotcrete to substrate,
- Distinct reduction of rebound and dust,
- Reliable long-term strength and durability,
- Minimal strength loss of the accelerated concrete,
- 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

Packaging	Available in 5-gallon (19-liter) drums, 55-gallon (208-liter) drums, 275-gallon (1040-liter) totes, and bulk delivery.
Appearance / Color	White Liquid.  Separation may occur on surface level of Sika® Sigunit® L-5601 AF. This is a natural tendency for suspension-based product and when mixed, separation does not indicate adverse performance.
Shelf Life	Shelf life when stored in dry covered area between 41°F to 86°F (5°C to 30°C) is 6 months from manufacturing date.
Storage Conditions	Store in a dry covered area in original, undamaged, and sealed container. Protect from direct sunlight. If frozen, product must be defrosted or heated to minimum 41°F (5°C) and thoroughly mixed before transfer or usage.  <u>Weekly mixing</u> is recommended to retain viscosity, as thickening will occur. Contact your Sika Technical Representative for more information.
Specific gravity	Approx. 1.460

## APPLICATION INFORMATION

Recommended Dosage	<p>The correct dosage must be determined by <u>preliminary testing</u>. Many different factors contribute to the performance of Sika® Sigunit® L-5601 AF, see "LIMITATIONS" sections below for more information. Pre-trials should be executed to confirm correct dosage with the equipment and shotcrete that is intended to be used.</p> <p>If Original Portland Cement (OPC) is greater than 65% in mix design, the maximum dosage is up to 9% by weight of cementitious/binding material. Dosages above 9% should be avoided.</p> <p>Contact your Sika Technical Representative, prior to using Sika® Sigunit® L-5601 AF.</p>
Compatibility	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, please contact your Sika Technical Representative for further information.
Mixing	<p>Sika® Sigunit® L-5601 AF should be thoroughly homogenized by mixing 30 minutes prior to use or down-packing.</p> <p>During storage, product is recommended to <u>mix weekly</u> to retain viscosity, as thickening will occur. Recommended mixing methods varies depending on multiple factors. Please contact your Sika Technical Representative for more information and for the "Sika® Sigunit® L-5601 AF Recommended Storage and Handling" document.</p>

## Equipment

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 prior to 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.
- Mixing equipment must be cleaned before using to prevent contamination.

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

## 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 set accelerating effect of Sika® Sigunit® L-5601 AF depend on the following factors, but not limited to:

- Cement type,
- Cementitious content,
- Age of mix,
- Water-cement ratio of the shotcrete mix,
- Type of substrate,
- Shotcrete methods used,
- Temperature of the shotcrete and application area,
- Applied layer thickness,
- Use of specialized materials (such as microsilica),
- Quality of equipment,
- Other unusual project conditions and special considerations,
- When using sulphate resistant cements, strength development can be slower.

## 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.

## 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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### Product Data Sheet

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