BUILDING TRUST
CONSTRUIRE LA CONFIANCE

PRODUCT DATA SHEET

Sika® Sigunit®-530 AFI

Liquid alkali-free setting accelerator for shotcrete applications

PRODUCT DESCRIPTION

Sika® Sigunit®-530 AFI is a high-performance liquid, alkali-free, setting and hardening accelerator for shotcrete.

WHERE TO USE

Sika® Sigunit®-530 AFI is suitable for both dry- and wet-mix shotcrete applications and can be used in the following applications, but is not limited to:

- Support at the face, wall and crown during tunnel and mine excavation
- Rock face and slope stabilisation
- High-quality shotcrete lining

CHARACTERISTICS / ADVANTAGES

Sika® Sigunit®-530 AFI provides the following characteristics and benefits:

- Solution-based product; no circulation required to maintain homogeneity
- No product waste due to settlement
- 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
- Improves bond of shotcrete to rock and concrete thus facilitating overhead spraying
- Chloride-free, does not negatively affect the reinforcement steel

PRODUCT INFORMATION

Composition / Manufacturing	Aqueous solution of selected inorganic materials
Packaging	1040L IBC (275 US gal)
Colour	Cloudy white, liquid
Shelf Life	Four (4) months from date of production if stored in original, unopened, undamaged and sealed containers, protected from direct sunlight and kept at temperatures between 5 °C (41 °F) and 35 °C (95 °F).
Storage Conditions	Store protected from direct sunlight at temperatures between 5 °C (41 °F) and 35 °C (95 °F). **Note:** After prolonged storage the performance of Sika® Sigunit®-530 AFI should be tested.
Viscosity	≤ 120 cps at 20 °C (68 °F)
Total Chloride Ion Content	≤ 0.1 %
Equivalent Sodium Oxide	≤ 2.0 %

Specific Gravity	1.44 g/cm³ (89.9 lb/ft³)

APPLICATION INFORMATION

Recommended Dosage	The correct dosage must be determined by preliminary testing. For layer thicknesses of up to 100 mm (4 in) in one pass, the recommended dosage is established between 4 % and 7 % of weight of binder.

SYSTEMS

Compatibility	The following Sika® products are generally used for the basic shotcrete mix: ▪ Sika® ViscoCrete® ▪ SikaTard®-930, SikaMix® and Sika® Stabilizer 4R ▪ SikaFume®

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

WHERE TO USE

- Sika® Sigunit®-530 AFI is not compatible with alkaline shotcrete accelerators.
- If thicker layers of shotcrete are to be applied, ensure that the temperature of the basic concrete is not lower than 15 °C (59 °F). Lower temperatures require higher dosage of accelerator.
- When using sulphate resistant cements strength development can be slower

ENVIRONMENT, HEALTH & SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

SUBSTRATE QUALITY

The substrate must be clean, free of loose rock and free of water under hydrostatic pressure.

DISPENSING

Before using Sika® Sigunit®-530 AFI, the accelerator hoses must be thoroughly flushed and cleaned. The use of Sika® Sigunit®-530 AFI requires appropriate dosing and a conveying and spraying system in accordance with good industry practice. Metal parts of the pump that come into direct contact with Sika® Sigunit®-530 AFI must be made of stainless steel.

The water/binder ratio of the basic concrete mix in the wet-mix process, and the quantity of gauging water in the dry-mix process are also parameters influencing the acceleration effect of Sika® Sigunit®-530 AFI. The accelerator's effect depends on the cement content, the age and type of cement, on the substrate and the shotcrete temperature as well as on the layer thickness and spraying process, quality of equipment and application technique.

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended

application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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