

PRODUCT DATA SHEET

Sika® Sigunit®-5130 AFL

(formerly MasterRoc® SA 430)

Liquid sprayed concrete accelerator for wet-mix spraying

DESCRIPTION

Sika® Sigunit®-5130 AFL is an accelerator for the wet-mix spraying process but can also be used in the dry-mix spraying process. It is a liquid additive whose dosage can be varied to the desired setting and hardening times.
Suitable for use in hot and tropical climatic conditions.

USES

Sika® Sigunit®-5130 AFL is suitable for all applications where high early strength and very thick sprayed concrete layers are required.

- For temporary ground support in tunneling and mining
- Slope stabilization

FEATURES

- Fast setting and higher early strength
- Rapid work progress
- Low viscosity
- Easy to mix into the concrete (even at low temperatures)
- Low consumption

PRODUCT INFORMATION

Composition	Blend of special inorganic materials
Packaging	Drum, 1,000 L flowbin or in bulk
Shelf life	12 months from date of production if stored properly
Storage conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5 °C and +50 °C.
Appearance and colour	Clear to whitish liquid
Density	~1.36 kg/l (+25 °C)
Viscosity	30–70 mPa.s (cps) (+20 °C)
Total chloride ion content	Nil (EN 480-10)

TECHNICAL INFORMATION

Concrete mix design

When Sika® Sigunit®-5130 AFL is used for wet mix spraying, it is advised to have the w/c ratio < 0.45.
When targeting extremely high early strength, it is preferable to have w/c ratio ≤ 0.40.
The lower w/c ratios provide faster setting, higher early strength, better durability and lower accelerator dosage; moreover, it allow for thicker layers to be applied overhead.

APPLICATION INFORMATION

Recommended dosage

3–8 % by weight of binder
Dosages by weight of binder depend on the mix design, raw materials, climatic conditions and concrete requirements.
Trial mixes must be performed to establish the exact dosage rate required.

Dispensing

Sika® Sigunit®-5130 AFL is added at the nozzle. It is essential to have a constant and accurate dosage of accelerator into the concrete stream. To ensure quality sprayed concrete, follow the pump selection guidelines given below:

Works very well with:

- Mono pumps (stator & rotor pumps)
- Peristaltic pumps

Should not be used with:

- Piston pumps
- All pumps with ball and seat valves
- Pressure tanks
- Gear pumps

Do not use a filter on the suction hose as this causes obstructions. Preferably draw the material off the bottom of the drum/container.

Compatibility

Sika® Sigunit® SA 430 is compatible with the following Sika products: SikaPump®, Sika® ViscoCrete®, Sikament®, SikaFume®, SikaFiber®, SikaTard®

We recommend to perform trial mixes to establish the required performance when combining Sika® Sigunit®-5130 AFL with the above products or other admixtures. Please consult our Sika Technical Department.

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

- Overdosing (> 8% by weight of binder) may result in decreased final strength.
- The effect of the accelerator depends on the content, age and type of cement as well as the shotcrete temperature. It is recommended to use only fresh cement. With some cements the setting characteristics can be slower. We recommend the use of Portland cements, which normally give faster setting than blended or sulphate resistant cement types.

- Sika® Sigunit®-5130 AFL also works well with composite cements types (blended cements, fly ash/slag). In all cases, it is strongly recommended to carry out preliminary tests to check setting and the 24 h strength of the cements planned for use in a project.
- The w/c ratio of the base shotcrete 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®-5130 AFL.

ECOLOGY, HEALTH AND 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.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

The substrate must be clean and free from loose particles and preferably damp.

CLEANING OF EQUIPMENT

After the use of Sika® Sigunit®-5130 AFL, the dosing pump and other parts of the system must be thoroughly cleaned with plenty of water. Failure to do so provokes blockages in the dosing system when next used.

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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ISO 9001, 14001, 45001 – SGS
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ISO 9001, 14001 – SGS
- Sika Saudi Arabia Limited
ISO 9001, 14001 – TÜV
- Sika MB Construction Chemicals LLC
- Sika Construction Chemicals for Manufacturing LLC
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All products are supplied under a management system certified to conform to the requirements of the quality, environmental and occupational health & safety standards ISO 9001, ISO 14001 and ISO 45001.



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