

PRODUCT DATA SHEET

Sika® Sigunit®-1392 AFL

(formerly MasterRoc® SA 192)

Alkali-Free, Liquid, Solution Type High Performance Set Accelerator for Sprayed Concrete

DESCRIPTION

Sika® Sigunit®-1392 AFL is a high-performance, low viscosity, solution type, alkali-free set accelerator for sprayed concrete. The dosage can be varied to the desired setting and hardening requirements.

USES

- Temporary and permanent ground support in tunneling and mining
- Slope stabilization
- Also suitable for acceleration of cementitious grouts, such as for annulus grout in TBM tunnels, cemented ground injection and foam concrete
- 3D printing

FEATURES

Sika® Sigunit®-1392 AFL is ideally suited for wet mix sprayed concrete for ground support.

- The quick setting property allows rapid work progress and the ability to construct thick sprayed concrete linings via layered application during one construction sequence
- The unique product formulation provides fast setting, continuous early-age strength development high durability and good long term strength
- Very low dust generation during application and therefore a good working environment
- Possibility of low rebound applications when using the correct nozzle angle and distance
- Non-aggressive properties provide improved working safety, reduced environmental impact and lower handling costs
- Alkali-free
- Chloride free : no impact on reinforcement steel

PRODUCT INFORMATION

Packaging	200 L/drum, 1,000 L/IBC
Shelf life	6 months from date of production if stored properly in undamaged, original, sealed packaging
Storage conditions	Temperature storage from +5°C to +40°C when stored in dry place and protected from direct sunlight
Appearance and colour	Clear liquid
Density	1.33 ± 0.03 g/ml (at temperature 20°C)
pH-Value	2.7 ± 0.5

APPLICATION INFORMATION

Recommended dosage

Accelerator dosage depend on the w/c+b ratio, temperature conditions (concrete and ambient), cement reactivity and on required layer thickness, setting time and early strength development. The dosage is normally in the range of 3 to 10% of binder weight.
Overdosing (typically > 12%) may result in a decreased final strength compared to moderately accelerated sprayed concrete. In case that an excessive dosage is needed, the impact on the strength shall be evaluated.

BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, user shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety related data.

APPLICATION INSTRUCTIONS

It is recommended to use only fresh cement as the age of the cement can have a negative influence on the setting characteristics of the mix.

Set accelerators can be sensitive to the type of cement and are also influenced by mix design. With some cements the setting characteristics can be too slow. We recommended the use of reactive cements and testing of system performance according to the below table. Sika® Sigunit®-1392 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 Vicat setting and the 24 h strength of the cements planned for use in a project.

Evaluation of setting and 24 h strength can be carried out on a test in accordance with EFNARD European Specification for Sprayed Concrete (1996), Appendix 1, Clause 6.3 (w/c +b ratio is 0.35 accelerator dosage in the average typical range)

The following results should be taken as a performance guide only. Set spray trials are recommended to get confirmation of the performance.

Initial set	Final set	24 h strength	Rating
< 2 min	< 6 min	< 15 N/mm ²	Good
2 - 5 min	8 - 13 min	10 - 15 N/mm ²	OK
> 5 min	> 13 min	< 10 N/mm ²	Poor

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LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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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