

PRODUCT DATA SHEET

Sika[®]-1+

WATERPROOFING CONCRETE ADMIXTURE FOR CONCRETE AND MORTARS - PART OF THE SIKA[®] WATERTIGHT CONCRETE CONCEPT

DESCRIPTION

Sika[®]-1+ is liquid waterproofing admixture used for permeability reduction in concrete and cementitious mortars. A concrete or mortar containing Sika[®]-1+ can achieve extremely enhanced properties regarding its water permeability and water tightness.

USES

Sika[®]-1+ has been specially formulated for the production of watertight concrete and mortars. It also forms part of the Sika[®] Watertight Concrete Concept. Types of constructions where it can be used are:

- Building construction, foundations and wherever waterproofed concrete is required
- Reservoirs and dams
- Underwater construction
- Pools and ponds

For watertight cementitious mortars it can be used in:

- Underground or above ground masonry structures
- Waterproofing in concrete structures
- Manufacturing of small cementitious parts with a high degree of water resistance and resistance to inclement weather

CHARACTERISTICS / ADVANTAGES

- Reduces water permeability in concrete and cementitious mortars

APPROVALS / STANDARDS

Water resisting admixture, Table 9 according to EN934.02:2009+A1:2012, Declaration of Performance 14465848, and provided with the CE-mark.

PRODUCT INFORMATION

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| Chemical Base | Partially neutralised composition of amino alcohols |
| Packaging | 20 litre pail |
| Appearance / Colour | Liquid, pink |
| Shelf Life | 12 months from date of production |
| Storage Conditions | Store properly in undamaged unopened, original sealed packaging, in dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight and frost. |
| Density | ~ 1.02 kg/lit (at +20°C) |
| pH-Value | 8.0-10.0 (at +20°C) |

TECHNICAL INFORMATION

Mortar Mix Design

- For Sika® Watertight Concrete: Sika®-1+ has been designed for all concrete types. In general, adaptation of Sika's suggestions for production of Watertight Concrete, which will have minimum 350 kg/m³ cement and maximum active W/C ratio = 0.45 is recommended. Depending on the specific demands of the mixture for each application, the incorporation of superplasticizer for achieving S3/S4 slump category must be evaluated (EN 206-1).

APPLICATION INFORMATION

Recommended Dosage

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|-----------|--|
| Concrete: | Standard dosage = 5.5 litres/m ³ or 1.5% by weight of cement |
| Mortar: | Add to gauging water at a rate of 1 part Sika®-1+ to 12 parts water. For wet sand increase dosage ratio to 1 : 9 |

APPLICATION INSTRUCTIONS

APPLICATION METHOD / TOOLS

- The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Refer to relevant standards. Fresh concrete must be cured properly.
- Sika®-1+ is added to the gauging water at the plant or on-site into the fresh mixture in the truck, in the production unit.
- Sika®-1+ is added into the fresh mortar or to the gauging water.
- Production of the main waterproofing layer with Sika®-1+ must follow consumption instructions, depending on the mortar's cement content.
- For mortar application: Substrates should be clean and free from oil, grease, old coatings, cement laitance and all loosely adhering particles. Wash and dampen with water the substrate up to saturation. Remove all standing water from the surface before application.
- In cases where a bonding layer is necessary, use Sikadur®-32 according to the relevant Product Data Sheet. Apply immediately onto the bonding layer (wet on wet).
- Before the application of a mortar prepared with Sika®-1+, concrete must be cured at least for 14 days.

LIMITATIONS

- When using Sika®-1+ a suitable mix design has been taken into account and local material sources should be trialled.
- Sika®-1+ should not be added to dry cement.
- Sika®-1+ must be added to the gauging water or incorporated in the fresh concrete mix.
- Use mortar prepared with Sika®-1+ as long as it retains its workability.
- Regarding curing of mortar/ concrete prepared with Sika®-1+, the same rules that apply for conventional mortar/concrete are to be followed. Protect mortar prepared with Sika®-1+ during its curing phase, especially at summer time or when relative humidity is low.
- Sika®-1+ is compatible with other Sika admixtures. In all cases, trials are recommended before combining products.
- Before application, suitability tests must be performed.

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.

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.

ECOLOGY HEALTH AND SAFETY

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

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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