

# PRODUCT DATA SHEET

## Sika® Antifreeze GR

ADMIXTURE FOR CONCRETING AT LOW TEMPERATURES



### DESCRIPTION

Sika® Antifreeze GR is a liquid admixture for the production of high quality concrete at low temperatures.

### USES

Sika® Antifreeze GR is used:

- For concreting at low temperatures during mixing, placing and curing
- In cases where frost or very low ambient temperatures are expected during concreting

### CHARACTERISTICS / ADVANTAGES

- Activates setting of cement
- Increases hydration heat
- Does not contain chloride and does not have negative influence on reinforcement

### APPROVALS / CERTIFICATES

CE-marking and Declaration of Performance as Set Accelerating admixture (Table 6) according to EN 934-2:2009+A1:2012, based on certificate of factory production control issued by notified factory production control certification body and type testing.

### PRODUCT INFORMATION

<b>Chemical base</b>	Mix of alkali salts and complex compound
<b>Packaging</b>	Bulk, 250 kg barrels, 20 kg container
<b>Appearance / Colour</b>	Liquid, brown
<b>Shelf life</b>	12 months from date of production
<b>Storage conditions</b>	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.
<b>Density</b>	~ 1.24 kg/l (at 20°C)
<b>pH-Value</b>	9.0 – 11.4 (at 20°C)

### TECHNICAL INFORMATION

<b>Concreting Guidance</b>	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.
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### APPLICATION INFORMATION

<b>Recommended Dosage</b>	1.0 -1.5 % by weight of cement
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## Compatibility

Sika® Antifreeze GR may be combined with the following Sika® products:

- SikaPlast® / Sika® ViscoCrete® / Sika® ViscoFlow® superplasticizers (without retarding properties)
- SikaRapid®-2
- Sika® Ferrogard®-901 S
- Sika® Visco I-100
- Sika®-1+ / Sika® WT-200 P
- Sikafume® HR-E / Sikacrete® AR
- Sika-Aer® Fine

Trials are always recommended, in order to confirm the desired application and performance characteristics.

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## Dispensing

Sika® Antifreeze GR is added to the gauging water at the plant or added on-site into the concrete truck.

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## Restrictions

- When using Sika® Antifreeze GR a suitable mix design should have been taken into account and local material sources should be trialed.
- Sika® Antifreeze GR should not be added to dry cement.
- Sika® Antifreeze GR should be added with the mixing water or introduced at the end of the mixing process.
- During concreting at low temperatures, cement, aggregates and water should have temperature at least higher than 0°C.
- Concreting is recommended to take place during morning hours and not in the evening.
- Concrete may be exposed to freezing if it reaches the minimum required compressive strength of 5 Mpa (DIN 1045).
- It is recommended to use high quantity of cement in the mix, of recent production date and Rapid type.
- Keep water / cement ratio as low as possible. In cases of demand for better workability use SikaPlast®, Sika® ViscoCrete®, Sika® ViscoFlow® superplasticizers without retardation effect. Do not use water to increase the flowability.
- Protect concrete during setting and hardening with plastic sheets or other mediums that reduce loss of hydration heat.
- Before application, suitability tests must be performed and local regulations must be observed.

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## 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.

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