

## PRODUCT DATA SHEET

# SikaRapid<sup>®</sup>-1 Antifreeze-PK

## COLD WEATHER CONCRETING ADMIXTURE

### DESCRIPTION

It is a safe and chloride free admixture in liquid form for producing high quality concrete while accelerating setting time at moderately low temperatures.

### USES

SikaRapid<sup>®</sup>-1 Antifreeze-PK provides progressing of concreteworking when suspending of concreting is necessary in risky cold or freezing following conditions:

- Slight daytime frost
- Expected overnight frost
- Expected cold periods

### CHARACTERISTICS / ADVANTAGES

SikaRapid<sup>®</sup>-1 Antifreeze-PK provides the following properties:

- Increased frost resistance
  - Improved strengths
  - It provides quickly achieving limit compressive strength (4-5 N/mm<sup>2</sup>) that is necessary against-freezing conditions and shortens this period.
- SikaRapid<sup>®</sup>-1 Antifreeze-PK does not contain chlorides or other ingredients promoting corrosion of steel reinforcement. It is therefore suitable for reinforced concrete.

### APPROVALS / STANDARDS

Conforms to the requirements of ASTM C 494-81 Tip C.

### PRODUCT INFORMATION

Chemical Base	Liquid, including special salts
Packaging	1000 ltr IBC 200 ltr drum 20 ltr plastic can 5 ltr jerry can 1 ltr jerry Can Bulk supply in tanker
Shelf Life	12 months from date of production if stored properly
Storage Conditions	Store properly in original, unopened and packaging (drums, containers) at temperatures between -10°C and 35 °C. Protect from direct sunlight
Appearance / Colour	Transparent yellowish liquid
Specific gravity	~1.0 to 1.12
pH-Value	6 - 8
Total Chloride Ion Content	Nil

# TECHNICAL INFORMATION

<b>Concreting Guidance</b>	The standard rules of good concreting practice for production and placing must be observed when using SikaRapid®-1 Antifreeze-PK in concrete. Refer to relevant standards. Fresh concrete must be cured properly especially at high temperatures in order to prevent plastic and drying shrinkage. Use Sika® Antisol® products as a curing agent or apply wet hessian.
<b>Compatibility</b>	SikaRapid®-1 Antifreeze-PK may be combined with the following Sika products: <ul style="list-style-type: none"><li>▪ SikaPump®</li><li>▪ SikaFume® HR</li><li>▪ Sika® Ferrogard® 901</li><li>▪ Sikament® / ViscoCrete®</li></ul> Trials are recommended before combining products.

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	1% by weight of cement (for 100 kg cement, 1000 g).
<b>Dispensing</b>	SikaRapid®-1 Antifreeze-PK is added to the gauging water at the plant or added onsite into the concrete mixer. When added separately to the freshly mixed concrete, further mixing should take place for at least 3 minutes. Before being discharged, the concrete must be visually inspected for even consistency.

## 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.

## USES

When using SikaRapid®-1 Antifreeze-PK a suitable mix design has been taken into account and local material sources should be trialled.

- SikaRapid®-1 Antifreeze-PK should not be added to dry cement.
- SikaRapid®-1 Antifreeze-PK should be added with the mixing water or introduced at the end of the mixing process.
- Before application, the compatibility tests must be performed

When concreting in cold conditions, attention should be paid to the following important points:

- Keep form work and reinforcement free from water, snow or ice. Where required pre-heat to 0°C minimum.
- If it is possible, instead of steel, wooden formwork must be used.
- Instead of blended cements, higher clinker rate cements must be preferred.
- All form work must be designed to act as thermal insulation.
- Fresh concrete temperature must be at least between 5°C and 15°C temperatures depending on ambient temperature and concrete thickness.
- Moisture and heat loss of concrete must be prevented by maintaining cover and insulation and the concrete must be protected until concrete achieves 4-5 N/mm<sup>2</sup> strength
- If SikaRapid®-1 Antifreeze-PK freezes in the drum, thaw gradually in a heated environment (avoid direct

flame contact). Once thawed all properties remain unaffected.

## 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.

## 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.

### CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

## 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. 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.

### **Sika Pakistan (Pvt.) Limited**

141-CCA Phase IV, DHA  
Lahore Punjab 54792  
Pakistan  
phone: +92 42 3569 4266 - 67  
fax: +92 42 3569 4268  
<http://pak.sika.com/>

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SikaRapid®-1 Antifreeze-PK  
March 2024, Version 01.01  
021402011000000091