

PRODUCT DATA SHEET

SikaRapid®-1

HARDENING ACCELERATING ADMIXTURE

PRODUCT DESCRIPTION

SikaRapid®-1 is a non-chloride hardening accelerator formulated to increase the early strength of concrete without affecting the initial workability.

WHERE TO USE

SikaRapid®-1 is designed for use in ready mix, precast and dry cast concrete applications and can provide substantial benefits in the following concrete applications requiring increased early age strength development:

- Precast/prestressed concrete
- Cold weather construction
- Fast-track construction
- Bridge overlays
- Sustainable construction with reduced carbon footprint (embodied CO₂) of concrete through cement reduction

CHARACTERISTICS / ADVANTAGES

High Early Strength Concrete: SikaRapid®-1 delivers excellent results in normal and hot weather conditions where very high early strengths are required.

Benefits

- Early stripping and re-use of forms
- Faster finishing operations on flatwork surfaces
- Earlier post-tensioning.
- Effective with GU, MH, HE cements

Precast concrete: SikaRapid®-1 delivers excellent results for precast concrete when high early strengths are required. Curing times are significantly reduced while concrete quality is improved.

Benefits

- Use as a replacement for steam curing to save energy

costs

- Increase early strengths and allow faster rotation of molds to increase productivity
- Use as a replacement for HE Type cement

Cold weather concreting: SikaRapid®-1 is an effective hardening accelerator where high early strength concrete is desired and the use of calcium chloride is prohibited.

Benefits

- Insulation and heating costs for curing time can be reduced
- Earlier stripping and reuse of forms increases labor productivity
- Accelerated strength gain allows earlier structural use and speeds completion time

Placing concrete in freezing conditions: When used at Sika recommended dosage rates, SikaRapid®-1 may reduce the need for cold weather concreting practices as specified in ACI 306 - *Standard Specification for Cold Weather Concreting*. Field evaluations should be carried out when concrete is to be placed in freezing conditions to determine the minimum ambient and concrete temperatures required, and the optimum dosage for the desired setting time and strength performance. Sika strongly recommends that appropriate sound curing practices be used to protect fresh concrete from excessive heat loss in extreme weather conditions. SikaRapid®-1 does not contain calcium chloride or any other intentionally added chlorides and will not initiate or promote the corrosion of reinforcing steel present in the concrete.

ENVIRONMENTAL INFORMATION

- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations

APPROVALS / CERTIFICATES

- SikaRapid®-1 meets the requirements of ASTM C494 Type C accelerating admixtures.

PRODUCT INFORMATION

CSC MasterFormat®	03 05 00
Packaging	205 L (54 US gal.) drum 1040 L (275 US gal.) IBC Bulk delivery
Appearance / Colour	Liquid / Pink/Purple
Shelf Life	1 year when stored in dry warehouse conditions, at temperatures between 10 °C and 27 °C (50 °F and 80 °F).
Storage Conditions	Store at temperatures above 5 °C (40 °F). If frozen, thaw and agitate thoroughly to return to normal state.
Specific Gravity	Approx. 1.17

TECHNICAL INFORMATION

APPLICATION INFORMATION

Recommended Dosage	<p>The typical dosage range for SikaRapid®-1 to increase early strength is 520-3120 mL/100 kg (8-48 fl. oz/100 lb) of cementitious material. When used to protect concrete from freezing a higher dosage may be necessary. Dosage rates vary depending upon the amount of early strength gain desired. Slump, ambient temperature, water-cementitious ratio, mixing time and various concrete materials, such as type of cement and supplementary cementitious materials, will affect dosage rates. It is recommended to conduct trial mixes with the actual materials to determine the required dosage for optimum performance.</p> <p>To the extent specialized materials (such as microsilica) are specified, extreme ambient project conditions are encountered, or other unusual project conditions require special consideration outside the recommended dosage, contact your Sika Canada Technical Sales Representative for further information.</p>
Mixing	<p>Measure the required quantity manually or by automated dispenser. Add SikaRapid®-1 directly into the freshly mixed concrete, or as an integral material in the batching cycle. Do not mix with dry cement. SikaRapid®-1 may be dispensed on site directly prior to placement. Care must be taken to mix thoroughly. When used in combination with other admixtures dispense each admixture separately into the mix.</p> <p>Compatibility with other admixtures: SikaRapid®-1 can be used in combination with other Sika admixtures and can be successfully used in mix designs utilizing supplementary cementitious materials. Do not mix SikaRapid®-1 with expansion agents.</p>

BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

ENVIRONMENT, HEALTH & 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.

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for exact product data and uses.

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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: www.sika.ca

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Product Data Sheet

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