

PRODUCT DATA SHEET

Sika[®] Retarder-21

SET RETARDING CONCRETE ADMIXTURE

DESCRIPTION

Sika[®] Retarder-21 is a phosphate based liquid admixture that slows the cement hydration; delaying the initial set in direct proportion to the dosage used. After the planned delay in initial set, hardening develops at an accelerated rate.

Suitable for use in tropical and hot climatic conditions.

USES

- Large volume pours
- Avoidance of cold joints
- Construction joints without formwork
- Long hauls
- Difficult placing conditions
- Elevated temperatures
- Re-vibrated concrete

CHARACTERISTICS / ADVANTAGES

Sika[®] Retarder-21 provides the following:

- Controlled setting time
- Safety: Sika[®] Retarder-21 merely retards and does not “kill” the set of cement
- Does not entrain air even at high dosages

APPROVALS / CERTIFICATES

Sika[®] Retarder-21 follows the requirements of ASTM C494; Type B and EN 934-2

PRODUCT INFORMATION

Composition	Selected phosphates
Packaging	200 L drum, 1000 L flowbin
Appearance / Colour	Light brown liquid
Shelf life	12 months from date of production if stored properly
Storage conditions	Store in undamaged, unopened, original sealed packaging in dry conditions at temperatures between +5 °C and +45 °C. Protect from direct sunlight and frost.
Density	~1.09 kg/l (+25 °C)
Total Chloride Ion Content	Nil (EN 934-2)

TECHNICAL INFORMATION

Concreting Guidance

The standard rules of good concreting practice for production and placing must be observed when using Sika® Retarder-21 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.

APPLICATION INFORMATION

Recommended Dosage

0.2 - 1.5 % by weight of binder.

Higher dosages by weight of binder can be used depending on the mix design, raw materials, climatic conditions and concrete requirements.

Trial mixes must be performed to establish the exact dosage rate required.

Compatibility

Sika® Retarder-21 may be combined with all types of Portland cement (OPC and SRC), concretes containing pozzolanic materials such as GGBS, PFA, micro-silica and the following Sika products:

Sika® ViscoCrete®, SikaPlast® and Sikament® ranges;

SikaPump®, Sika® FerroGard®-901, SikaFume®, SikaFiber®, Sika Aer®, Sika® Stabilizer, Sika®-1 WT, Sika® WT-10

We recommend to perform trial mixes to establish the required performance when combining Sika® Retarder-21 with the above products or other admixtures. Please consult our Sika Technical Department.

Dispensing

Sika® Retarder-21 is added to the gauging water or simultaneously poured with it into the concrete mixer at the batching plant.

Do not add Sika® Retarder-21 directly to the dry mix.

For optimum utilization of its high water reduction property we recommend thorough mixing at a minimal wet mixing time of 60 seconds. The addition of the remaining gauging water (to fine tune concrete consistency) may only be started after two-thirds of the wet mixing time to avoid surplus water in the concrete.

IMPORTANT CONSIDERATIONS

Sika® Retarder-21 must not be used with anti-freeze agents.

Before pouring suitability tests on the fresh concrete must be carried out.

Take special care that formwork is properly installed and secured.

If frozen and/or if precipitation has occurred, it may only be used after thawing slowly at room temperature and intensive mixing.

When using Sika® Retarder-21 a suitable concrete mix must be designed for the local material sources and should be trialed.

When accidental overdosing occurs the set retarding effect increases.

During this period the concrete must be kept moist in order to prevent premature drying out.

BASIS OF PRODUCT DATA

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

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 the exact product data and uses.

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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ISO 9001: Sika UAE LLC,
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Sika Saudi Arabia Co. Ltd,
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ISO 14001: Sika UAE LLC,
Sika Gulf B.S.C. (c),
Sika Saudi Arabia Co. Ltd
OHSAS: Sika UAE LLC,
Sika Gulf B.S.C. (c)

All products are supplied
under a management
system certified to conform
to the requirements of the
quality, environmental and
occupational health &
safety standards ISO 9001,
ISO 14001 and OHSAS
18001.

Product Data Sheet

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