

## PRODUCT DATA SHEET

Sika<sup>®</sup> Retarder AL

## SET RETARDING CONCRETE ADMIXTURE

**DESCRIPTION**

A highly efficient set-retarding admixture

**USES**

Sika<sup>®</sup> Retarder AL is used as a retarding admixture in structural and mass concrete where a controlled extension of setting time is required, such as:

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

**PRODUCT INFORMATION**

<b>Chemical Base</b>	Phosphate/phosphonate liquid blend
<b>Packaging</b>	200 litre containers, and bulk delivery
<b>Shelf Life</b>	Twelve (12) months from date of manufacture if stored correctly as stated.
<b>Storage Conditions</b>	Store free from frost and between +5°C and +35°C.
<b>Appearance / Colour</b>	Red
<b>Specific gravity</b>	1.11 g/cm <sup>3</sup> @ 20°C
<b>Total Chloride Ion Content</b>	Nil

**TECHNICAL INFORMATION**

<b>Effect on Setting</b>	Initial set time lengthened. Accelerated hardening after set commences.
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**CHARACTERISTICS / ADVANTAGES**

- Controlled extension of setting times
- Sika<sup>®</sup> Retarder AL does not contain chlorides or other ingredients promoting corrosion of steel reinforcement. It is therefore suitable for reinforced concrete structures.

**APPROVALS / STANDARDS**

Conforms to EN 934 Part 2.

# APPLICATION INFORMATION

## Recommended Dosage

**0.3 – 3.0% by weight of binder (270 – 2,700 ml for 100 kg binder).** The retardation rate achieved is directly dependant on the dosage rate which in turn is influenced by quality of cement, aggregates, w/b ratio and temperatures.

### \*\*Rules of Thumb:

- Each degree below +20°C increases retardation time by 1 hour
- Each degree above +20°C reduces retardation time by half an hour
- An increase in water:cement ratio by 0.01 increases retardation time by half an hour

### Typical Sika® Retarder AL Dosages (% per 100 kg binder):

		Ambient Temperature						
		10°C	15°C	20°C	25°C	30°C	35°C	40°C
Retardation Time (Hours)	3	0.3	0.3	0.3	0.4	0.5	0.8	1.2
	4	0.3	0.3	0.4	0.5	0.7	1.0	1.5
	6	0.3	0.4	0.5	0.7	0.9	1.4	2.0
	8	0.4	0.5	0.7	0.9	1.2	1.7	2.4
	10	0.5	0.7	0.9	1.2	1.5	2.0	2.7
	12	0.6	0.8	1.1	1.4	1.8	2.3	
	14	0.7	0.9	1.3	1.6	2.0	2.7	
	16	0.8	1.1	1.5	1.8	2.3		
	18	0.9	1.4	1.6	2.0	2.6		
	20	1.1	1.5	1.9	2.3			
24	1.4	1.8	2.2	2.7				

### EFFECTS OF OVERDOSING

Dosages above the recommended limits may cause excessive retardation, but ultimate strengths aren't affected negatively. During this period the concrete must be kept moist in order to prevent premature drying out.

## Dispensing

**INSTRUCTIONS FOR USE:** Preferably add Sika® Retarder AL into the concrete after the cement, water and other components have been mixed and wetted. Do not pour Sika® Retarder AL onto dry cement.

### IMPORTANT NOTES:

- Sika® Retarder AL must not be used with setting / hardening accelerator admixtures (e.g. SikaRapid®)
- Retarded concrete must be protected from early age moisture evaporation or dehydration, since water must be present for cement hydration when the chemical retarding action stops. We recommend the use of Sika® Film evaporation retardant and Sika® Antisol curing compounds for this purpose (refer to the separate Sika® Film and Sika® Antisol data sheets for further information).

## Compatibility

Sika® Retarder AL is compatible with other Sika admixtures. Always conduct trials first and add Sika® Retarder AL separately, do not premix.

## 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.

## 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.

## 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.

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