

PRODUCT DATA SHEET

Sika® Control®-40 id

SHRINKAGE REDUCING ADMIXTURE

DESCRIPTION

Sika® Control®-40 id is a liquid shrinkage reducing admixture used to produce high performance concrete with greatly reduced drying shrinkage.

USES

Sika® Control®-40 id is used for the production of high performance concrete with greatly reduced drying shrinkage, so that the durability of the concrete structure is significantly improved.

Sika® Control®-40 id is mainly used for the following applications:

- Structures with strict demands regarding the limitation of crack width
- In concrete where low drying shrinkage is important
- In situ concrete floors where reduced shrinkage minimizes risk of cracking for the same joint spacing, which therefore allows wider joint spacing without increasing the risk of shrinkage cracking
- In thin bonded topping slabs, to minimize the difference in shrinkage from the existing substrate
- In concrete elements which are restrained against shrinkage
- Concrete in marine environments for enhanced durability
- Watertight and water retaining concrete structures

CHARACTERISTICS / ADVANTAGES

Sika® Control®-40 id increases cohesion within the concrete pore system. Thus the contraction caused by water loss is reduced which results in significantly reduced drying shrinkage and therefore shrinkage cracking in correctly designed concrete mixes and structures

With the application of Sika® Control®-40 id the following advantages can be achieved:

- Reduced drying shrinkage
- Reduced drying shrinkage cracking
- Reduced potential of slab curling
- Reduced permeability
- Increased concrete durability
- Increased watertightness

Sika® Control®-40 id does not contain chlorides or any other ingredients which promote the corrosion of steel. It is therefore suitable for use in reinforced and prestressed concrete structures.

PRODUCT INFORMATION

Chemical Based	Hydroxyl combination
Packaging	200 litre drums (non returnable). 1 000 litre IBC's or tanker delivery on request.
Appearance / Colour	Liquid, Reddish
Shelf Life	12 months from date of production if stored properly in original, unopened packaging
Storage Conditions	Store at temperatures between +5°C and +30°C. Protect from direct sunlight and frost.

Density	1.03 ± 0.02 kg/L	(at +25°C)
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TECHNICAL INFORMATION

Concreting Guidance	The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Laboratory trials shall be carried out before concreting on site, especially when using a new mix design or producing new concrete components. Fresh concrete must be cured properly and curing applied as early as possible
Total Chloride Ion Content % (w/w)	< 0.10 M-% (chloride-free)
Equivalent Sodium Oxide as % Na₂O	< 1.0 M-%

APPLICATION INFORMATION

Consumption	Recommended dosage: 0.5 - 2.0% by weight of cement Note: Application at higher dosages will increase the retardation effects.
Compatibility	Sika® Control®-40 id may be combined with many other Sika products. Important: Always conduct trials before combining products in specific mixes and contact our Technical Service for information and advice about any specific combinations.
Effect on Setting	The application of Sika® Control®-40 id will result in retarded setting of the concrete and in cold ambient temperatures this effect will be increased. When combining Sika® Control®-40 id with retarding admixtures, their combined retardation effect and the delay in setting time has to be taken into account.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete, mortar, brickwork:

Sound, clean, free oil, grease, dust or laitance, as even possible

DISPENSING

Sika® Control®-40 id is added to the gauging water or added with it into the concrete mixer.

CLEANING OF TOOLS

Clean all tools and application equipment with water immediately after use.

Hardened / cured material can only be removed mechanically.

LIMITATIONS

- When using Sika® Control®-40 id a suitable mix design has to be produced and the local material sources shall be trialled.
- If frozen and/or if precipitation of the product has occurred, Sika® Control®-40 id may be used after thawing slowly at room temperature and intensive mixing.
- Sika® Control®-40 id shall not be added to dry cement.
- Independent tests confirm, that at a dosage of 2% Sika® Control®-40 id by weight of cement, shrinkage over the long term can be reduced by as much as 40%. However the actual amount of shrinkage reduction is also dependant on the concrete mix design and the other components of the concrete.

- Sika® Control®-40 id will reduce drying shrinkage. It will not eliminate cracking. The reduction of cracking is primarily dependant on good engineer-ing design, that allows for concrete shrinkage by incorporating well designed and properly allocated shrinkage control joints.
- Kiln drying of the fresh concrete containing Sika® Control®-40 id has to be carried out outdoors or with constant good ventilation.
- Before application, suitability tests must be performed.

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 declared data and recommended uses for this product may vary from country to country. Please 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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