BUILDING TRUST

PRODUCT DATA SHEET

SikaControl®-40

SHRINKAGE REDUCING ADMIXTURE

PRODUCT DESCRIPTION

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

USES

SikaControl®-40 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.
SikaControl®-40 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

SikaControl®-40 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 SikaControl®-40 the following advantages can be achieved:

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

SikaControl®-40 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 Base	Hydroxyl combination
Packaging	20 litre drums, 1000 llitre IBC
Appearance / Colour	Reddish liquid
Shelf Life	12 months shelf life from date of production if stored properly in undamaged, unopened, original sealed packaging.
Storage Conditions	Storage at temperatures between 5 °C and 30 °C in a dry area. Protect from direct sunlight, frost and contamination.

Density	~1.0 kg/l (at +20°C)
pH-Value	~11.5
Total Chloride Ion Content	<0.10% (chloride-free)
Equivalent Sodium Oxide	<0.1%

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.
Effect on Setting	The application of SikaControl®-40 will result in retarded setting of the concrete and in cold ambient temperatures this effect will be increased. When combining SikaControl®-40 with retarding admixtures, their combined retardation effect and the delay in setting time has to be taken into account.

APPLICATION INFORMATION

Recommended Dosage

0.5 - 3.0% by weight of cement
Note: Application at higher dosages will increase the retardation effects.

Admixture	W/C ratio	Consistence	28 day Compressive strengths	Shrinkage compared to control mix @ 28 days
Control	0.588	80mm	55.0N/mm²	-
SikaControl®-40 @ 3%	0.588	80mm	54.0N/mm²	65%

Compatibility	SikaControl®-40 may be combined with many other Sika products. Note: Always conduct trials before combining products in specific mixes and contact our technical service for more information and advice.
Dispensing	SikaControl®-40 is added to the gauging water or added with it into the concrete mixer.

LIMITATIONS

When using SikaControl®-40 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, SikaControl®-40 may be used after thawing slowly at room temperature and intensive mixing.
SikaControl®-40 shall not be added to dry cement.
Independent tests confirm, that at a dosage of 2% SikaControl®-40 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.
SikaControl®-40 will reduce drying shrinkage. It will not eliminate cracking. The reduction of cracking is primarily dependant on good engineering design, that allows for concrete shrinkage by incorporating well designed and properly allocated shrinkage control

joints.
Kiln drying of the fresh concrete containing SikaControl®-40 has to be carried out outdoors or with constant good ventilation.
Before application, suitability tests must be performed.

VALUE BASE

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 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.

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.

SIKA LIMITED
Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited

SIKA IRELAND LIMITED
Ballymun Industrial Estate
Ballymun
Dublin 11, Ireland
Tel: +353 1 862 0709
Web: www.sika.ie
Twitter: @SikaIreland