BUILDING TRUST

PRODUCT DATA SHEET

Sika® ViscoCrete® SKY 504 E

Water reducing and retarding superplasticizing admixture for concrete

DESCRIPTION

Sika® ViscoCrete® SKY 504 E is part of a range of latest generation superplasticizers engineered for ready-mix concrete.
Sika® ViscoCrete® SKY 504 E is based on unique polymers with long lateral chains. This greatly improves cement dispersion. At the start of the mixing process the same electrostatic dispersion occurs but the presence of the lateral chains, linked to the polymer backbone, generate a steric hindrance which stabilises the cement particles capacity to separate and disperse. This mechanism provides flowable concrete with greatly reduced water demand.
Suitable for use in hot and tropical climatic conditions

USES

- Ready mixed concrete
- High flow concrete
- Self compacting concrete
- Concrete with high water reduction
- Slabs
- Foundations
- Walls
- Columns and piers
- Piles
- Pre-stressed concrete
- Bridges and cantilever structures

FEATURES

Sika® ViscoCrete® SKY 504 E provides the following beneficial properties:
- Substantial improvement in workability without increased water
- Low risk of segregation
- Normal set without retardation (within the dosage limit)
- Improved density and surface finish
- Improved water tightness
- Excellent solution for continuous concrete casting of deep elements
- Does not contain chlorides or other steel corrosion promoting ingredients
- Sika® ViscoCrete® SKY 504 E may be used in combination with Sika® Stabilizer. The technology produces advanced self-compacting concrete, without the aid of vibration. For economic, ecological and ergonomic ready-mix concrete production.

CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® SKY 504 E follows the requirements of ASTM C494; Type G and EN 934-2

PRODUCT INFORMATION

Composition	Aqueous solution of modified polycarboxylates, co-polymers
Packaging	1000 L flowbin or bulk supply in tanker
Appearance and colour	Light to dark 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 +50 °C. Mix well before using.

Density	~1.1 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® ViscoCrete® SKY 504 E 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	0.75–2.0 % by weight of binder. Other 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® ViscoCrete® SKY 504 E is suitable for mixes containing all types of cement and supplementary cementitious materials such as: Microsilica (Silica Fume), Fly Ash (PFA), GGBS (ground granulated blast furnace slag) and the following Sika products: ▪ SikaPump® ▪ Sika® FerroGard® ▪ SikaFume® ▪ SikaFiber® ▪ Sika® Aer ▪ Sika® Stabilizer ▪ SikaControl® We recommend to perform trial mixes to establish the required performance when combining Sika® ViscoCrete® SKY 504 E with the above products or other admixtures. Please consult our Sika Technical Department.
Dispensing	Sika® ViscoCrete® SKY 504 E is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® SKY 504 E is poured into the concrete mix right after the addition of the first 80 % of the mixing water, i.e. when all solids are wetted. Avoid adding the admixture to the dry aggregates.

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.

IMPORTANT CONSIDERATIONS

When using Sika® ViscoCrete® SKY 504 E a mix design must be selected for the local material sources used and trial mixes performed to verify suitability.
If frozen and/or if precipitation has occurred, it may only be used after thawing slowly at room temperature and intensive mixing. Sika® ViscoCrete® SKY 504 E should not be added to dry cement.
Before pouring, suitability tests on the fresh concrete must be carried out. Due to the extended workability take special care that formwork is properly installed and secured. In case the setting time of concrete is extended, if cured properly, other properties may not be affected and higher ultimate strength is visualized.
Sika® ViscoCrete® products are not compatible with admixtures based on sulfonated naphthalene or melamine.

ECOLOGY, HEALTH AND 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 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 Gulf B.S.C. (c)
Tel: +973 177 38188
Email: info@bh.sika.com
Sika Kuwait Cons. Mat. & Paints Co WLL
Tel: +965 22 282 296
Email: sika.kuwait@kw.sika.com
Web: gcc.sika.com

Sika UAE LLC
Sika UAE LLC (Branch)
Sika International Chemicals LLC
Tel: +971 4 439 8200
Email: info@ae.sika.com
Web: gcc.sika.com

Sika Saudi Arabia Limited
Riyadh / Jeddah / Dammam / Rabigh
Tel: +966 9200 22167
Email: info@sa.sika.com
Web: gcc.sika.com

Sika MB LLC
Oman
Tel. +968 22 826 500
Email: info@om.sika.com
Web: gcc.sika.com

ISO 9001, 14001, 45001 – SGS:
- Sika UAE LLC
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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 ISO 45001.