

PRODUCT DATA SHEET

Sika® ViscoCrete® SKY 516

New polycarboxylic ether superplasticizer for the production of high-quality ready-mix concrete with low water cement ratio and exceptional workability

DESCRIPTION

Sika® ViscoCrete® SKY 516 is an innovative latest generation superplasticizer based on polycarboxylic ether (PCE) polymers engineered for high quality ready-mix concrete. Sika® ViscoCrete® SKY 516 is based on unique polymers with long lateral chains. It is derived directly from the "Total Performance Control" concept.

Sika® ViscoCrete® SKY 516 is specially formulated for ready-mix concrete & Precast industries. Its configuration allows its delayed adsorption onto the cement particles and disperses them efficiently. As compared with other PCE superplasticizers, it is possible to obtain a high quality concrete mix with accelerated strength development and extended workability without delayed setting characteristics. The Total Performance Control concept ensures that ready-mix producers, contractors and engineers get a concrete that is of the same high quality as originally specified; starting from production at the batching plant, to the delivery and application into place, and followed by its hardening process. Utilizing Rheodynamic concrete technology it provides a concrete mix with exceptional placing characteristics and accelerated cement hydration for early strength development and high-quality concrete with reduced water demand. Sika® ViscoCrete® SKY 516 is suitable for use in hot and tropical climatic conditions.

USES

- High quality ready mixed concrete
- High flow concrete
- Concrete with high water reduction
- Slabs
- Foundations
- Walls
- Columns and piers
- Bridges and cantilever structures

FEATURES

Sika® ViscoCrete® SKY 516 provides the following beneficial properties:

The ready-mix producer:

- Capability of delivering high performance concrete at any time to the job site in place
- Production of a concrete with low water cement ratio without loss of workability
- Low risk of segregation
- Normal set without retardation (within the dosage limit)
- Suitable for production of self compacting concrete (SCC)
- Single product for many application needs

The contractor / applicator:

- Easier placing and faster strength development
- Improved density and surface finish
- Improved water tightness
- Excellent solution for continuous concrete casting of deep elements
- Substantial improvement in workability without increased water
- Guarantee to place the concrete as specified and ordered from ready-mix plant

The engineer:

- Assurance that concrete meets the original specification
- High quality durable concrete
- Does not contain chlorides or other steel corrosion promoting ingredients

CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® SKY 516 follows the requirements of ASTM C494; Type F & G and BS 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	Colorless to pale yellow 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. Mix well before using.	
Density	~1.09 kg/l (+25°C)	
pH-Value	4.0 – 7.0	
Total chloride ion content	Nil	(BS 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 516 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.
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APPLICATION INFORMATION

Recommended dosage	0.6 - 1.5 % by weight of total cementitious material. Other dosages up to 3% by weight of total cementitious material can be used depending on the slump requirement, mix design, raw materials, climatic conditions and other concrete requirements. Trial mixes must be performed to establish the exact dosage rate required.
Dispensing	Sika® ViscoCrete® SKY 516 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® SKY 516 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.
Compatibility	<p>Sika® ViscoCrete® SKY 516 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:</p> <ul style="list-style-type: none">▪ SikaPump®▪ Sika® FerroGard®▪ SikaFume®▪ SikaFiber®▪ Sika® Aer▪ Sika® Stabilizer▪ SikaControl® <p>We recommend to perform trial mixes to establish the required performance when combining Sika® ViscoCrete® SKY 516 with the above products or other admixtures. Please consult our Sika Technical Department for further assistance.</p>

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.
- Internal Reference - Version: MBS_CC-KSA/GI_SKY516_10-23 / 04-24

IMPORTANT CONSIDERATIONS

When using Sika® ViscoCrete® SKY 516 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 516 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 may be achieved. Sika® ViscoCrete® products are not compatible with admixtures based on sulfonated naphthalene or melamine. When accidental overdosage occurs, bleeding and segregation of the concrete and retardation of initial set may be observed.

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.

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 MB Construction Chemicals LLC

Sika International Chemicals LLC

Tel: +971 4 439 8200

Email: info@ae.sika.com

Web: gcc.sika.com

Sika Saudi Arabia Limited

Sika Construction Chemicals for

Manufacturing LLC

Riyadh / Jeddah / Dammam / Rabigh

Tel: +966 12 692 7079

Email: info@sa.sika.com

Web: gcc.sika.com

Sika LLC - Oman

Master Builders Solutions LLC

(part of Sika)

Tel. +968 22 826 500

Email: info@om.sika.com

Web: gcc.sika.com



ISO 9001, 14001, 45001 – SGS
- Sika UAE LLC
- Sika International Chemicals LLC
- Sika Gulf B.S.C. (c)
- Sika MB Construction Chemicals LLC
- Sika Saudi Arabia Limited
- Sika MB Construction Chemicals for Manufacturing LLC
- Master Builders Solutions LLC

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.



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