

PRODUCT DATA SHEET

Sika® ViscoCrete® GL 3165

(formerly MGlenium 3165)

HIGH RANGE WATER REDUCING ADMIXTURE BASED ON MODIFIED POLYCARBOXYLIC ETHER

DESCRIPTION

Sika® ViscoCrete® GL 3165 is ready to use high range water reducing admixture based on latest generation polycarboxylic ether polymer. It has been primarily developed for applications in the ready mixed and precast concrete industries where the highest durability and performance is required.

CHEMISTRY & MECHANISM OF ACTION

Conventional superplasticisers, such as those based on sulphonated melamine and naphthalene formaldehyde condensates, at the time of mixing, become absorbed onto the surface of the cement particles. This absorption takes place at a very early stage in the hydration process. The sulphonic groups of the polymer chains increase the negative charge on the surface of the cement particle and dispersion of the cement occurs by electrostatic repulsion. Sika® ViscoCrete® GL 3165 is differentiated from conventional superplasticisers in that it is based on a unique carboxylic ether polymer with long lateral chains. This greatly improves cement dispersion. At the start of the mixing process the same electrostatic dispersion occurs as described previously 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.

Sika® ViscoCrete® GL 3165 is suitable for use in hot and tropical climatic conditions.

USES

The excellent dispersion properties of Sika® ViscoCrete® GL 31655 make it the ideal admixture for precast and ready-mix concrete where low water cement ratios are required. This property allows the production of very high early and high ultimate strength concrete with minimal voids and therefore optimum density. Due to the strength development characteristics, the elimination or reduction of steam curing in precast works may be considered as an economical option.

FEATURES

Sika® ViscoCrete® GL 3165 offers the following benefits:

- Suitable for concrete mixes with low water cement ratio or high powder content.
- High early compressive strength
- It can be used for production of Self Compacting Concrete (SCC)
- High quality durable concrete with lower permeability
- Low risk of segregation
- Improved density and surface finish
- Improved water tightness
- Does not contain chlorides or other steel corrosion promoting ingredients

CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® GL 3165 follows the requirements of ASTM C494; Type A&F and BS EN 934-2

PRODUCT INFORMATION

Composition	Aqueous solution of modified polycarboxylates, co-polymers	
Packaging	210 L drum, 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	~1.08 kg/l (+25°C)	
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® GL 3165 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	0.5 to 2.0 L per 100 kg of total binder. Trial mixes must be performed to establish the exact dosage rate based on required concrete performance.
Compatibility	Sika® ViscoCrete® GL 3165 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: <ul style="list-style-type: none">▪ 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® GL 3165 with the above products or other admixtures. Please consult our Sika Technical Department for further assistance.
Dispensing	Sika® ViscoCrete® GL 3165 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® GL 3165 is poured into the concrete mix right after the addition of the first 60 % to 70 % 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.
- Internal Reference - Version:
MBS_CCKSA/ MGI_3165_10-23/07-24

IMPORTANT CONSIDERATIONS

When using Sika® ViscoCrete® GL 3165 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® GL 3165 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.

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.

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 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)
ISO 9001, 14001 – SGS
- Sika Saudi Arabia Limited
ISO 9001, 14001 – TÜV
- Sika MB Construction Chemicals LLC
- Sika 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.



Product Data Sheet

Sika® ViscoCrete® GL 3165

November 2024, Version 01.01

021301011000005703