

PRODUCT DATA SHEET

Sika® ViscoCrete® GL 3171

(formerly MGlenium 3171)

POLYCARBOXYLIC ETHER BASED SUPERPLASTICIZER FOR THE PRODUCTION OF HIGH QUALITY READY-MIX AND PRECAST CONCRETE

DESCRIPTION

Sika® ViscoCrete® GL 3171 is an innovative latest generation superplasticizers based on polycarboxylic ether (PCE) polymers and is specially engineered for ready-mix and precast concrete to achieve extended workability retention without affecting the early strength of the concrete.

Sika® ViscoCrete® GL 3171 is differentiated from conventional superplasticizer, such as those based on sulphonated naphthalene formaldehyde condensate. Sika® ViscoCrete® GL 3171 is based on unique carboxylic ether 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

Sika® ViscoCrete® GL 3171 is used for the production of high-quality ready-mix concrete and precast industry.

FEATURES

Sika® ViscoCrete® GL 3171 offers the following benefits for:

The ready-mix producer:

- Capability of delivering high performance concrete
- Production of a concrete with low water cement ratio without loss of workability
- Single product for many application requirements

The contractor / applicator:

- Easier placing and faster strength development
- Improved density and concrete surfaces

The engineer:

- Predictable performance
- High quality durable concrete

CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® GL 3171 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	210 L drum, 1000 L flowbin or bulk supply in tanker
Appearance and colour	Light brown colored liquid
Shelf life	12 months from date of production when 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	~1.06 kg/l (+25°C)
pH-Value	3.5 - 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® GL 3171 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	0.5 to 2.0 L per 100 kgs of total binder. Trial mixes must be performed to establish the exact dosage rate required.
Compatibility	<p>Sika® ViscoCrete® GL 3171 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® GL 3070 with the above products or other admixtures. Please consult our Sika Technical Department for further assistance.</p>
Dispensing	Sika® ViscoCrete® GL 3171 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® GL 3171 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

Sika® ViscoCrete® GL 3171 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 3171 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.

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 9200 22167

Email: info@sa.sika.com

Web: gcc.sika.com

Sika LLC - Oman

Sika MB LLC

Tel. +968 22 826 500

Email: info@om.sika.com

Web: gcc.sika.com



ISO 9001, 14001, 45001 – SGS
Sika MB 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
ISO 9001 – LMS
Sika MB 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.



SikaViscoCreteGL3171-en-AE-(12-2024)-1-2.pdf

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December 2024, Version 01.02

02130100000002620

