

## PRODUCT DATA SHEET

# Sika® ViscoCrete® GL 3177

(formerly MGlenium 3177)

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

### DESCRIPTION

Sika® ViscoCrete® GL 3177 is an innovative latest generation superplasticizer based on polycarboxylic ether (PCE) polymers and is specially engineered for ready-mix concrete and precast concrete.

Sika® ViscoCrete® GL 3177 is differentiated from conventional superplasticisers, such as those based on sulphonated melamine and naphthalene formaldehyde condensates 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 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.

Suitable for use in hot and tropical climatic conditions.

### USES

Sika® ViscoCrete® GL 3177 is used for the production of high quality early setting ready-mix concrete and in Precast industry.

### FEATURES

Sika® ViscoCrete® GL 3177 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 concrete surface appearance

#### For the Engineer:

- Predictable performance
- Improves quality and durability of concrete

### CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® GL 3177 follows the requirements of ASTM C494; Type F & G and BS EN 934-2

### PRODUCT INFORMATION

<b>Composition</b>	Aqueous solution of modified polycarboxylates, co-polymers
<b>Packaging</b>	210 L drum, 1000 L flowbin or bulk supply in tanker
<b>Appearance and colour</b>	Brown colored liquid
<b>Shelf life</b>	12 months from date of production if stored properly
<b>Storage conditions</b>	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 use.

Density	~1.04 kg/l (+25 °C)	
pH-Value	5–8	
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 3177 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	0.4 to 2.5 L per 100 kg of total binder. Trial mixes must be performed to establish the exact dosage as per the project requirement.
Compatibility	<p>Sika® ViscoCrete® GL 3177 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"> <li>▪ SikaPump®</li> <li>▪ Sika® FerroGard®</li> <li>▪ SikaFume®</li> <li>▪ SikaFiber®</li> <li>▪ Sika® Aer</li> <li>▪ Sika® Stabilizer</li> <li>▪ SikaControl®</li> </ul> <p>Sika® ViscoCrete® GL 3177 can be used with air-entraining admixtures, provided they meet ASTM, AASHTO CRG specifications. We recommend to perform trial mixes to establish the required performance when combining Sika® ViscoCrete® GL 3177 with the above products or other admixtures. Please consult our Sika Technical Department for further assistance.</p>
Dispensing	Sika® ViscoCrete® GL 3177 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® GL 3177 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® GL 3177 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 3177 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.

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ISO 9001, 14001, 45001 – SGS  
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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.



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### Product Data Sheet

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