

PRODUCT DATA SHEET

Sika® ViscoCrete® GL 3178

(formerly MGlenium 3178)

POLYCARBOXYLIC ETHER BASED SUPERPLASTICIZER FOR THE PRODUCTION OF HIGH QUALITY EARLY SETTING READY-MIX CONCRETE

DESCRIPTION

Sika® ViscoCrete® GL 3178 is an innovative latest generation superplasticizer based on polycarboxylic ether (PCE) polymers and it is specially engineered for ready-mix concrete and precast concrete. Sika® ViscoCrete® GL 3178 is differentiated from conventional superplasticisers, such as those based on sulphonated melamine and naphthalene formaldehyde condensates. 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 3178 is used the production of high-quality early setting ready-mix and precast concrete where high workability retention with high early strength is required. The use of Sika® ViscoCrete® GL 3178 include , but not limited to :

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

FEATURES

Sika® ViscoCrete® GL 3178 provides the following beneficial properties:

- Substantial improvement in workability without increase in water
- Low risk of segregation
- Production of high quality durable concrete
- Improved density and surface finish
- Predictable performance
- Easier for placing and faster strength development
- Does not contain chlorides or other steel corrosion promoting ingredients
- Single product for many application needs.

CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® GL 3178 follows the requirements of ASTM C494; Type 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 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 use.
Density	~1.05 kg/l (+25 °C)
pH-Value	4–7
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 3178 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 2.0 L per 100 kg of total binder. Trial mixes must be performed to establish the exact dosage.
Compatibility	<p>Sika® ViscoCrete® GL 3178 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 3178 with the above products or other admixtures. Please consult our Sika Technical Department for further assistance.</p>
Dispensing	Sika® ViscoCrete® GL 3178 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® GL 3178 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 3178 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 3178 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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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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