

PRODUCT DATA SHEET

Sika® ViscoCrete® ACE 8538

(formerly MasterGlenium® ACE 8538)

New generation superplasticising admixture

DESCRIPTION

Sika® ViscoCrete® ACE 8538 is a new generation superplasticiser for concrete containing poly carboxylate ether polymers, developed primarily for use in ready-mix and precast concrete industry. The ability to work with low water cement ratio and still obtain extended slump retention allows for the manufacture of high quality concrete.

Sika® ViscoCrete® ACE 8538 is free of chloride and has been formulated to comply with the requirements of ASTM C494 for Types A and F admixtures. Sika® ViscoCrete® ACE 8538 is compatible with all cements meeting recognised international standards.

Chemistry and Mechanism of Action

Sika® ViscoCrete® ACE 8538 is differentiated from conventional superplasticisers in that it is based on a unique polycarboxylate ether polymer with long lateral chains. This greatly improves cement dispersion. 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.

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.

USES

Sika® ViscoCrete® ACE 8538 is suitable for work with normal to low water/cement ratios. The high water reduction, early strength and slump retention make Sika® ViscoCrete® ACE 8538 the ideal admixture for the ready-mix and precast concrete industry. The use of Sika® ViscoCrete® ACE 8538 also allows the manufacture of high performance concrete with high early (18–24 hours) and final strength.

CHARACTERISTICS / ADVANTAGES

- High water reduction - High early and ultimate strengths. Low permeability, high durability concrete.
- High flowability - Ease of placing and compaction. Less vibration required even in case of steel reinforcement congestion. Less workmanship required.
- Superior workability - Improves concrete finish. Excellent surface appearance and texture.
- Reduced slump loss - No retempering. Ease of delivery to point of placement.
- Low shrinkage and creep - Improved dimensional stability. Reduced risk of cracks.
- Superior cohesion - Ease of pumping.
- Minimal bleed water - Improved surface quality.

PRODUCT INFORMATION

Packaging	<ul style="list-style-type: none">▪ 1000 L IBC tank▪ Bulk delivery
Shelf Life	12 months from date of production
Storage Conditions	Stored at a temperature above 0 °C and in tightly sealed original containers. If frozen, thaw it and completely reconstitute by mild agitation. Do not use compressed air.

APPLICATION INFORMATION

Recommended Dosage	Dosage of Sika® ViscoCrete® ACE 8538 depends on the mix design, ambient conditions and degree of water reduction and workability required. Sika® ViscoCrete® ACE 8538 is dispensed at a rate of 400 ml to 1300 ml per 100 kg of cementitious material. Other dosages may also be used depending on the specific working conditions. Trial mixes should be made with job materials to determine the optimum dosage required for a specified job requirement.
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BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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.

APPLICATION INSTRUCTIONS

DISPENSING

Sika® ViscoCrete® ACE 8538 is a ready-to-use admixture that is added to the concrete at the time of batching. The maximum effect is achieved when Sika® ViscoCrete® ACE 8538 is added after the addition of 50 % to 70 % of water. Sika® ViscoCrete® ACE 8538 must not be added to the dry materials. A separate dispenser and feed line must be used.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

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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