

PRODUCT DATA SHEET

Sika® ViscoCrete® ACE 8111

HIGH RANGE WATER REDUCING ADMIXTURE

DESCRIPTION

Sika® ViscoCrete® ACE 8111 is high range water reducing admixture, based on chains of modified polycarboxylate ether technology which has higher performance than melment based. The chemistry of Sika® ViscoCrete® ACE 8111 what differentiates from the traditional high range water reducing with good workability is a new, unique mechanism of action that greatly improves the effectiveness of cement dispersion. Traditional high range water reducing like melamine and naphthalene sulfonates are based on polymers, which are absorbed by the cement granules. They wrap around the granules surface areas at the very early stage of the concrete mixing process. The sulphonic groups of the polymer chains increase the negative charge of the cement particle surface and disperse these particles by electrical repulsion. This electrostatic mechanism causes the cement paste to disperse and has the positive consequence of requiring less mixing water to obtain a given concrete workability. Hydration however starts as soon as the cement particles get in contact with mixing water. The rapid growth of hydration crystals will change the surface mechanical of the particles and thus of set the free dispersion of them.

At the beginning of the mixing process, it initiates the same electrostatic dispersion mechanism as the traditional high range water reducing, but the side chains linked to the polymer backbone generate a steric hindrance, which greatly stabilises the cement particles ability to separate and disperse. With this process, flowable concrete with greatly reduced water content is obtained. The mechanism allows obtaining, compared to traditional high range water reducing admixtures, considerably reduction of mixing water content and higher early strengths.

USES

- Production of load bearing precast elements (e.g. bridge girders, piles, concrete housing)
- High slump concrete for precast concrete
- Low slump concrete
- Structures constructed using travelling forms and slip forms
- Hot weather concreting
- In-situ casting of structural elements
- Add on admixture for applications of Watertight or Integral Waterproofing Concrete

FEATURES

- High workability for short placement, saves times and labor.
- High water reduction for high impermeability and strength.
- Superior cohesion for no segregation even at high workability, Excellent concrete quality.
- High early strength for early demolding, shorter strength steam curing cycles.
- High elastic modulus for superior load bearing capacity.
- Low shrinkage for better dimensional stability and creep.

PRODUCT INFORMATION

Composition	Aqueous solution of modified polycarboxylate copolymers
Packaging	205 L drums (non-returnable) 1 000 L bulk delivery
Shelf life	12 months from date of production if stored properly in undamaged, unopened, original sealed packaging.
Storage conditions	Store in dry conditions at temperatures between +10 °C and +35 °C. Protect from direct sunlight and frost.
Appearance	Liquid

TECHNICAL INFORMATION

Concreting guidance	The standard rules of good concreting practice, concerning production and placing, are to be followed. Laboratory trials before concreting on site are strongly recommended when using a new mix design or producing new concrete components. Fresh concrete must be cured properly and as early as possible.
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APPLICATION INFORMATION

Recommended dosage	0.6 – 2.0 L per 100 Kg of cementitious. 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.
Compatibility	Sika® ViscoCrete® ACE 8111 may be combined with the following products: ▪ Sika® Plastiment® ▪ SikaFume® ▪ SikaFiber® ▪ Sika® Stabilizer Do not use viscocrete or viscoflow series combined with sikament series. To produce flowing and or self-compacting concrete, special concrete mix design is required. Pre-trials are recommended and mandatory if combinations with the above products are required. Please consult to our Technical Service Department.

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.

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 8111 is a ready-to-use admixture to be added to the concrete mix as a separate component. Optimal mixing water reduction is obtained if Sika® ViscoCrete® ACE 8111 is poured into the concrete mix right after the addition of the mixing water. Avoid adding the admixture to the dry aggregates.

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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