BUILDING TRUST

PRODUCT DATA SHEET

# Sika® ViscoCrete® ACE 30

Water reducing and retarding superplasticizing admixture for concrete

## DESCRIPTION

Sika® ViscoCrete® ACE 30 is a third generation polycarboxylate based superplasticizer for concrete. It has been particularly developed for use in ready mix and precast concrete production to give extended slump retention and high early strength development of concrete mixes. Sika® ViscoCrete® ACE 30 is suitable for use in concrete mixes containing microsilica and other pozzolanic materials such as GGBS and fly ash. Suitable for use in hot and tropical climatic conditions.

## USES

- Precast concrete structures in general
- Precast concrete tunnel segments
- Pre-stressed concrete elements
- Post-tensioned concrete bridge segments
- Fiber Reinforced Concrete (FRC) containing steel, synthetic and/or polypropylene fibers
- Low w/b ratio concrete requiring high workability, slump retention and high early strength development
- Self Compacting Concrete

## FEATURES

Sika® ViscoCrete® ACE 30 acts by surface adsorption on the cement particles producing sterical hindrance as well as electrostatic repulsion between cement particles which results in higher dispersion, flow and retention.
Sika® ViscoCrete® ACE 30 provides the following beneficial properties:

- Increased working time
- Early strength development resulting in economic stripping time for pre-cast and in cast-situe concrete
- High water reduction resulting in high density, high strength and reduced water permeability
- Excellent plasticizing effect giving improved flowability, placing and compaction behavior
- Improved surface finish
- Better shrinkage and creep behaviour
- Low risk of segregation
- Reduces energy costs for steam cured pre-cast elements
- Does not contain chlorides or other steel corrosion promoting ingredient
- Sika® ViscoCrete® ACE 30 may be used in combination with Sika® Stabilizer. The technology produces advanced self-compacting concrete, without the aid of vibration. For economic, ecological and ergonomic ready-mix concrete production.

## CERTIFICATES AND TEST REPORTS

Sika® ViscoCrete® ACE 30 follows the requirements of ASTM C494; Type F and EN 934-2

## PRODUCT INFORMATION

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| **Composition** | Aqueous solution of modified polycarboxylates, co-polymers |
| **Packaging** | 200 L drum, 1000 L flowbin or bulk supply in tanker |
| **Appearance and colour** | Clear to light brown 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 +50°C. Mix well before using. |
| **Density** | ~1.06 kg/l (+25°C) |
| **Total chloride ion content** | Nil (EN 934-2) |

## TECHNICAL INFORMATION

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| **Concreting guidance** | The standard rules of good concreting practice for production and placing must be observed when using Sika® ViscoCrete® ACE 30 in concrete.<br>Refer to relevant standards.<br>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. |

## APPLICATION INFORMATION

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| **Recommended dosage** | 0.5 - 1.5 % by weight of binder<br>Other dosages by weight of binder can be used depending on the mix design, raw materials, climatic conditions and concrete requirements. Trial mixes must be performed to establish the exact dosage rate required. |
| **Compatibility** | Sika® ViscoCrete® ACE 30 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:<br>▪ SikaPump®<br>▪ Sika® FerroGard®<br>▪ SikaFume®<br>▪ SikaFiber®<br>▪ Sika® Aer<br>▪ Sika® Stabilizer<br>▪ SikaControl®<br>We recommend to perform trial mixes to establish the required performance when combining Sika® ViscoCrete® ACE 30 with the above products or other admixtures. Please consult Sika Technical Department. |
| **Dispensing** | Sika® ViscoCrete® ACE 30 is a ready-to-use admixture to be added to the concrete as a separate component. Optimal result is obtained if Sika® ViscoCrete® ACE 30 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.<br>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® ACE 30 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® ACE 30 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.

## 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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