

## PRODUCT DATA SHEET

# Sika® ViscoCrete®-4200 AE

### HIGH RANGE WATER REDUCING / SUPERPLASTICIZING ADMIXTURE FOR CONCRETE

#### DESCRIPTION

Sika® ViscoCrete®-4200 AE is a polycarboxylate based superplasticizer developed particularly for use in ready mixed concrete to give extended slump retention and high strength development of normal grade concrete mixes.

Sika® ViscoCrete®-4200 AE is suitable for use in concrete mixes incorporating pozzolanic materials such as GGBS, PFA and microsilica. Suitable for use in hot and tropical climatic conditions.

#### USES

- Production of site mixed and ready-mix concrete
- During hot weather production of concrete with extended transportation or placing times
- Concrete with low water / cement ratio
- Concrete placement in congested steel reinforcement
- Self compacting concrete
- Slim elements requiring a high standard of surface finish
- High performance / high strength concrete

#### CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-4200 AE acts by surface absorption on the cement particles producing steric hindrance as well as electrostatic repulsion between cement particles which results in higher dispersion, flow and retention.

Sika® ViscoCrete®-4200 AE provides the following beneficial properties:

- Powerful plasticising action
  - Production of workable concrete at low w/b ratio
  - Improved shrinkage and creep characteristics
  - Excellent flowability resulting in minimal placing and compacting efforts
  - Slower rate of carbonation ingress
  - Cost effective, structurally economic
  - Higher ultimate strengths allows greater flexibility for engineers to design
  - Reduces surface defects so improving aesthetic appearance.
  - Durable concrete
- Does not contain chlorides or other steel corrosion promoting ingredients

#### APPROVALS / CERTIFICATES

Sika® ViscoCrete®-4200 AE follows the requirements of ASTM C494; Type G and EN 934-2

#### PRODUCT INFORMATION

<b>Composition</b>	Aqueous solution of modified polycarboxylates, co-polymers
<b>Packaging</b>	1000 L flow bins Bulk supply in tanker trucks possible on request
<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 and frost.
<b>Appearance and colour</b>	Light brown liquid
<b>Density</b>	~1.07 kg/l (+25 °C)
<b>Total chloride ion content</b>	Nil (EN 934-2)

## TECHNICAL INFORMATION

<b>Concreting guidance</b>	The standard rules of good concreting practice for production and placing must be observed when using Sika® ViscoCrete®-4200 AE 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

<b>Recommended dosage</b>	0.3 - 1.5 % by weight of binder Higher dosages up to 2 % 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.
<b>Dispensing</b>	Sika® ViscoCrete®-4200 AE is added to the gauging water or simultaneously poured with it into the concrete mixer at the batching plant. Do not add Sika® ViscoCrete®-4200 AE directly to the dry mix. For optimum utilization of its high water reduction property we recommend thorough mixing at a minimal wet mixing time of 60 seconds. The addition of the remaining gauging water (to fine tune concrete consistency) may only be started after two-thirds of the wet mixing time to avoid surplus water in the concrete.
<b>Compatibility</b>	Sika® ViscoCrete®-4200 AE may be combined with all types of Portland cement (OPC and SRC), concretes containing pozzolanic materials such as; GGBS, PFA, micro-silica and the following Sika products: <ul style="list-style-type: none"> <li>▪ SikaPump®</li> <li>▪ Sika® FerroGard®-901</li> <li>▪ SikaFume®</li> <li>▪ SikaFiber®</li> <li>▪ Sika Aer®</li> <li>▪ Sika® Stabilizer</li> <li>▪ Sika®-1 WT</li> <li>▪ SikaControl®-11 WT AE</li> </ul> We recommend to perform trial mixes to establish the required performance when combining Sika® ViscoCrete®-4200 AE with the above products or other admixtures. Please consult our Sika Technical 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.

## IMPORTANT CONSIDERATIONS

When using Sika® ViscoCrete®-4200 AE 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®-4200 AE 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. Set

retardation may occur at dosages greater than 1.0% with some binders and if the setting time of the concrete is extended its properties may not be affected if cured properly. When accidental overdosage occurs bleeding and segregation of the concrete and retardation of initial set will be observed. 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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ISO 9001: Sika UAE LLC,  
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ISO 14001: Sika UAE LLC,  
Sika Gulf B.S.C. (C),  
Sika Saudi Arabia Limited,  
Sika International Chemicals LLC,  
ISO 45001: Sika UAE LLC,  
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Sika International Chemicals 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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