

# PRODUCT DATA SHEET

## Sika® ViscoCrete® Ultra-450

POWERFUL SUPERPLASTICIZING CONCRETE ADMIXTURE WITH HIGH WORKABILITY RETENTION PROPERTIES



### DESCRIPTION

Sika® ViscoCrete® Ultra-450 is a 3rd generation powerful superplasticizer based on the polycarboxylate polymer technology. It offers high initial workability in the mix and its prolonged maintenance, even under demanding conditions.

### USES

Sika® ViscoCrete® Ultra-450 is suitable for ready-mix and site batched high quality concrete. Moreover, it offers very high water reduction, high initial slump and prolonged slump retention. It is especially suitable:

- For concrete with demands for high initial workability and maintenance of it
- For high categories of site-batched and ready-mix concrete
- In cases of applications under high temperatures and for high distance concrete transportations and/ or in cases of need for prolonged concrete workability
- For shotcrete

### CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete® Ultra-450 is a very powerful superplasticizer which offers:

- Exceptional water reduction in the mix, producing thus dense and high strength concrete
- Plastic and easy to handle concrete mixes, resulting in better casting and compaction
- Exceptional flow ability maintenance in cases of high distance transportations and under high temperatures
- High range reduction of water permeability and carbonation
- Sika® ViscoCrete® Ultra-450 does not contain chlorides and is therefore suitable for prestressed and reinforced concrete

### APPROVALS / CERTIFICATES

High range water reducing / superplasticizing admixture (Tables 3.1 & 3.2) and Set retarding / high range water reducing / super plasticizing admixture (Tables 11.1 & 11.2) according to EN 934.02:2009+A1:2012, Declaration of Performance 26495882, and provided with the CE-mark.

### PRODUCT INFORMATION

|                            |   |
|----------------------------|---|
| <b>Chemical base</b>       | Aqueous solution of modified 3rd generation polycarboxylate polymers  |
| <b>Packaging</b>           | IBC, 210 kg drums, 20 kg containers.<br>Bulk supply on demand.  |
| <b>Appearance / Colour</b> | Liquid, brown   |
| <b>Shelf life</b>          | 8 months from date of production  |
| <b>Storage conditions</b>  | Store properly in undamaged, unopened, original sealed packaging, in dry conditions at temperatures between +5°C and +35°C. Protect from direct sunlight and frost. |
| <b>Density</b>             | ~ 1.06 kg/l (at +20°C)  |
| <b>pH-Value</b>            | 4.0 – 6.0 (at +20°C)  |

## TECHNICAL INFORMATION

### Concreting Guidance

The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Refer to relevant standards. Fresh concrete must be cured properly.

## APPLICATION INFORMATION

### Recommended Dosage

0.4 – 1.6% by weight of cement

### Compatibility

Sika® ViscoCrete® Ultra-450 can be combined with the following Sika products:

- Sika® Plastiment® series
- Sika®-1+ / Sika® WT-200 P
- Sika® Stabilizer-4R
- Sika® Visco I-100
- Sikafume® HR-E / Sikacrete® AR
- Sikacrete® UCS
- Sika-Aer® Fine
- Sika® Ferrogard-901 S
- Sika® Sigunit® shotcrete accelerators

Trials are recommended before combining products.

### Dispensing

Sika® ViscoCrete® Ultra-450 is added to the gauging water at the plant or added on-site into the concrete mixer.

### Restrictions

- When using Sika® ViscoCrete® Ultra-450 a suitable concrete mix should be designed and local raw material sources should be tested.
- Sika® ViscoCrete® Ultra-450 should not be added to dry cement.
- Sika® ViscoCrete® Ultra-450 should be added with the mixing water or introduced at the end of the mixing process.
- Before application, suitability tests must be performed.

## 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.

## 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.

## ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

## 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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