

## PRODUCT DATA SHEET

# Sika® ViscoCrete® ACE 8451

(formerly MasterGlenium® ACE 8451)

High range water reducer / superplasticiser

### DESCRIPTION

Sika® ViscoCrete® ACE 8451 is a concrete admixture used as high range water reducer or superplasticiser. It is optimized for applications where the time between concrete mixing and placement is short, such as in precast concrete production. In this instance, the workability life of the concrete is optimized to give a balance between maintaining the workability while still enabling the early onset of the strength development process. The unique molecular configuration of the Product enables rapid cement hydration. Robustness and controlled workability retention are distinct features of the precast concrete produced with this Product.

### USES

Sika® ViscoCrete® ACE 8451 is used for:

- Economic, eco-friendly and ergonomic production of concrete mixes with highly workable, non-segregating concrete utilizing low water cement ratios
- High early and final strength gains
- Precast concrete
- Concrete on-site requiring fast stripping time
- Concreting in cold weather

is used in:

- All consistencies, including Self-Compacting Concrete (SCC)

### PRODUCT INFORMATION

<b>Chemical base</b>	Aqueous solution of modified polycarboxylates
<b>Packaging</b>	245kg drum
<b>Shelf life</b>	12 months from date of production
<b>Storage conditions</b>	The Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight and frost. Always refer to the packaging.

### CHARACTERISTICS / ADVANTAGES

- Enables concrete mixes with low water-cement ratio and eco-friendly, CO<sub>2</sub>-reduced mix designs
- Improves flowability
- Enables low-energy placing and compacting
- Enhances robustness and consistency in concrete quality with low stickiness
- Improves surface finishing
- Achieves high early strengths
- Eliminates or minimizes heat curing
- Increases productivity, reduces cycle time
- Promotes high density and high final strength
- Improves surface appearance and durability of concrete
- Reduces shrinkage, creep, and water permeability
- Free of chlorides, low alkali content
- Suitable for use in reinforced and pre-stressed concrete
- If used in conjunction with Sika® Rapid® concept, cycle times can be further reduced, and temperature curing regimes can be further reduced or even eliminated

### APPROVALS / STANDARDS

Conforms to IS 9103/ ASTM C494 Type F

Frost: If frozen or if precipitation has occurred, the Product may be used after thawing slowly at room temperature and intensive mixing.

<b>Appearance / Colour</b>	Light to dark reddish brown liquid
<b>Density</b>	1.08 ± 0.02 at 25°C
<b>pH-value</b>	≥ 6

## TECHNICAL INFORMATION

<b>Concreting Guidance</b>	<ul style="list-style-type: none"><li>▪ Follow the standard rules of good concreting practice for both production and placement.</li><li>▪ Carry out laboratory trials before concreting on site, especially when using a new mix design or producing new concrete components.</li><li>▪ Carry out trials to confirm the flowability and workability of the concrete.</li><li>▪ Cure fresh concrete properly and apply curing as early as possible, particularly in hot, windy and dry conditions, as well as at low temperatures.</li></ul>
<b>Specific Advice</b>	<ul style="list-style-type: none"><li>▪ Excessive water addition or overdosing may cause bleeding or segregation.</li><li>▪ Due to the Product's high early characteristics, slump life is limited and proper care and timing during placement should be taken.</li></ul>

## SYSTEM INFORMATION

<b>Compatibility</b>	<p>The Product is compatible with all standard cement types. For use with other cements contact your local Sika technical service for information. The Product can be combined and is recommended for use with other Sika products, such as:</p> <ul style="list-style-type: none"><li>▪ SikaRapid® hardening accelerators</li><li>▪ Sika® Stabilizer workability improver</li><li>▪ SikaControl® durability and quality enhancer</li><li>▪ Sika® Separol® mould release agents</li><li>▪ Sika® Antisol® curing compounds</li></ul> <p>The Product is not compatible with admixtures from the Sikament® range. Always conduct trials before combining different products. Contact Sika Technical Services for additional information.</p>
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## APPLICATION INFORMATION

<b>Recommended Dosage</b>	<ul style="list-style-type: none"><li>▪ 300 ml to 1500ml per 100kg of cementitious material is normally recommended.</li></ul> <p>The dosage rates given above are for typical usages, they are not meant as absolute limits, as other dosages may be utilized in special cases according to specific job conditions.</p> <p>Note: Preliminary laboratory trials are always recommended to determine the optimum consumption and injection parameters.</p> <p>Contact Sika Technical Services for additional information.</p>
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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

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

## APPLICATION INSTRUCTIONS

### MIXING

The Product is a ready-to-use liquid that is added to the concrete during the mixing process. Optimal water reduction is obtained if the Product is dispensed into the concrete mix after the addition of 50–90 % of mixing water. Avoid adding the Product to dry materials. The Product should not be pre-mixed with other admixtures. If other admixtures are to be used in concrete containing the Product they must be dispensed separately.

After adding the Product allow enough mixing time to secure a homogenous concrete. If necessary, continue mixing and add additional Product to obtain the required workability.

## 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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### Product Data Sheet

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