BUILDING TRUST

PRODUCT DATA SHEET

# Sika® ViscoCrete®-3455

A new generation of high-performance polycarboxylate ether (PCE) superplasticizers for the Precast industry

## DESCRIPTION

Sika® ViscoCrete®-3455 consists of a range of innovative superplasticizers based on newly developed polycarboxylate ether polymers. The particular molecular configuration of Sika® ViscoCrete®-3455 accelerates the cement hydration by exposing increased surface of the cement grains to react with water. As a result, it is possible to obtain earlier development of the heat of hydration, rapid development of the hydration products and, as a consequence, higher strengths at very early age.

The polymer structure of Sika® ViscoCrete®-3455 is specially designed to improve the rheology of precast concrete, making it very flowable and low viscous even at very low water/cement ratios, without increasing stickiness. Robustness is a distinctive feature of the precast concrete produced with Sika® ViscoCrete®-3455.

## USES

Sika® ViscoCrete®-3455 is suitable for making precast concrete elements with highly-fluid concrete without segregation, but low water cement ratio and, consequently, high-early and final strengths.

## CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-3455 offer the following benefits for the precast concrete industry:

- Production of highly flowable, robust selfcompacting concrete having a low water cement ratio along with an optimal rheology.
- Enhanced robustness and consistency in concrete quality with low stickiness.
- Environmentally friendly, CO2 reduced mix- design optimization
- Elimination of heat curing.
- Improved surface appearance.
- Elimination of the energy required for placing, compaction and curing.
- Optimization of the curing cycles by reducing curing time or curing temperature.
- Increased productivity.

## APPROVALS / STANDARDS

EN EN934-2 and ASTM C494 Type A, E & F.

## PRODUCT INFORMATION

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| **Packaging** | 1000 litre IBC's |
| **Appearance / Colour** | Whitish to Yellowish liquid |
| **Shelf Life** | If stored in unopened containers according to manufacturer's instructions, the shelf life is 12 months from date of manufacture. |
| **Storage Conditions** | Sika® ViscoCrete®-3455 must be stored in a place where the temperature does not drop below 5°C. In case of freezing, warm up and homogenise the admixture solution before using. |

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| **Density** | 1.050 to 1.090 |
| **pH-Value** | 3 - 6 |
| **Total Chloride Ion Content** | <0.1% |
| **Equivalent Sodium Oxide** | <3% |
| **Recommended Dosage** | The recommended dosage rate is **0.3 to 2.0 litres per 100 kg** of the binder. Other dosages may be used in special cases according to specific production conditions. In this case please consult our Technical Services Department.<br>**Concrete trials must always be done to assess the suitability of the Sika® ViscoCrete®-3455 to the specific concrete materials used** and to optimise the admixture dosage range. |
| **Compatibility** | Sika® ViscoCrete®-3455 is compatible and recommended for use with:<br>▪ SikaStabilizer-110 MM to modify the viscosity of SCC.<br>▪ SikaControl-100 AER, air-entraining admixture, to improve freeze-thaw resistance (exposure class XF1 to XF4, EN 206-1)<br>▪ Sika Separol 302, demoulding agent for easy formwork removal and improved finish.<br>▪ Sika Antisol, curing compound for highly efficient water retention and friendly use.<br>▪ Sika® ViscoCrete®-3455 is not compatible with all admixtures of Sikament RB series. |
| **Dispensing** | Sika® ViscoCrete®-3455 is a liquid admixture to be added to the concrete during the mixing process. The best results are obtained when the admixture is added to the mixing water that is used for the concrete mix after all the other components are already in the mixer and after the addition of at least 80% of the total water. The water content is adjusted to obtain the desired consistence or workability.<br><br>Optimal water reduction is obtained if the Sika® ViscoCrete®-3455 is poured into the concrete mix right after the addition of the initial 80-90% of mixing water. Avoid adding the admixture to the dry aggregates. |

## 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.

## 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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