

## PRODUCT DATA SHEET

# Sika® ViscoCrete®-2110

### HIGH RANGE WATER REDUCING ADMIXTURE

#### PRODUCT DESCRIPTION

Sika® ViscoCrete®-2110 is a high range water reducer and superplasticizer utilizing Sika's ViscoCrete® polycarboxylate polymer technology.

#### WHERE TO USE

- Used in both ready mix and precast applications, as a plant-added high range water reducer to provide excellent plasticity while maintaining slump for up to 90 minutes
- Controlled set times make it ideal for horizontal and vertical applications
- Ideal for production of Self-Consolidating Concrete (SCC)

#### CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-2110 can be used for all levels of water reduction in various types of concrete ranging from dry cast applications, conventional concrete to SCC (Self Consolidating Concrete). Sika® ViscoCrete®-2110 will deliver water reduction up to 45 %. The special formulation of Sika® ViscoCrete®-2110 increases compressive strength of concrete and helps maintain the plasticity of the concrete over prolonged period of time. Sika® ViscoCrete®-2110 extends concrete workability time during warmer months when slump loss and fast stiffening of the fresh concrete can be a concern. The superplasticizing action of Sika® ViscoCrete®-2110 provides high slump / flowing concrete that be placed with minimal or no vibration even at very low water cementitious ratios, as low as 0.25.

**Water Reduction:** Sika® ViscoCrete®-2110 can be dosed in small amounts to obtain water reduction from 10–15 %, and will achieve water reduction up to 45 % at high dosage rates. Sika® ViscoCrete®-2110 is suitable for all levels of water reduction.

**Plasticizing effect:** The superplasticizing action of Sika® ViscoCrete®-2110 provides high slump, flowing concrete that maintains excellent workability and may be placed with minimal vibration even at very low water cementitious ratio's as low as 0.25. Sika® ViscoCrete®-2110 plasticized concrete is highly fluid while maintaining complete cohesion within the concrete matrix to eliminate excessive bleeding or segregation.

**Extended Slump Life and Set Control:** Sika® ViscoCrete®-2110 has been formulated to provide controlled and predictable extended slump life for periods of 60 to 90 minutes with normal set times.

The combined high range water reduction and superplasticizing action of Sika® ViscoCrete®-2110 provide the following benefits in hardened concrete:

- Higher ultimate strengths allow for greater engineering design flexibility and structural economy
  - Reduced water cement ratios produce more durable, dense concrete with reduced permeability
  - Highly effective plasticizer reduces surface defects in concrete elements and improves aesthetic appearance
- Sika® ViscoCrete®-2110 has been formulated to provide maximum water reduction and extended slump retention throughout entire dosage range.
- Extended slump life
  - Increased compressive strength when compared to reference concrete with same w/c ratio
  - High early compressive strengths for earlier removal of forms and structural use of concrete
  - High ultimate strengths allow for greater engineering design flexibility and structural economies

- Reduced water cement ratios produce more durable, dense concrete with reduced permeability
- Highly effective plasticizer reduces surface defects in concrete elements and improves aesthetic appearance
- Approved by the Ontario Ministry of Transportation
- Approved by the Ministère des Transports du Québec (MTQ)

## APPROVALS / CERTIFICATES

- ASTM C494 Types A and F
- AASHTO M194 Types A and F

## ENVIRONMENTAL INFORMATION

- Conformity with LEED®v4 MR Credit (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations
- Conformity with LEED®v4 MR Credit (Option 2): Building Product Disclosure and Optimization - Sourcing of Raw Materials

## PRODUCT INFORMATION

<b>CSC MasterFormat®</b>	<b>03 05 00   HIGH-RANGE WATER-REDUCERS</b>
<b>Packaging</b>	205 L (54 US gal.) drum 1040 L (275 US gal.) IBC* Bulk delivery  *Intermediate Bulk Container
<b>Appearance / Colour</b>	Orange Liquid
<b>Shelf Life</b>	1 year when stored in dry warehouse conditions at temperatures between 10 and 27 °C (50 and 80 °F).
<b>Storage Conditions</b>	Store at above 5 °C (40 °F). If frozen, thaw and agitate thoroughly to return to normal state.
<b>Specific Gravity</b>	Approx. 1.09

## APPLICATION INFORMATION

<b>Recommended Dosage</b>	Dosage rates will vary according to materials used, ambient conditions and the requirements of a specific project. Sika recommends dosage at 130–520 mL/100 kg (3–8 fl. oz. per 100 lb) of cementitious materials for general concrete applications. If maximum water reduction is required, dosage up to 780 mL/100 kg (12 fl.oz./100 lb) of cementitious may be used. In this case, delayed setting times may occur. Dosage rates outside the recommended range may be used where specialized materials such as microsilica are specified, extreme ambient conditions are encountered or unusual project conditions require special consideration. In this case, contact your Sika Canada Technical Sales Representative for further information.
<b>Mixing</b>	For best superplasticizing results, add Sika® ViscoCrete®-2110 directly to freshly mixed concrete in the concrete mixer at the end of the batching cycle. It may also be dispensed as an integral material during the regular admixture batching cycle, or into freshly mixed concrete in a ready-mix truck, at the concrete plant or at the job site. Do not introduce Sika® ViscoCrete®-2110 directly onto dry cementitious materials.  To optimize the superplasticizing effect after the addition of Sika® ViscoCrete®-2110, Sika recommends that the combined materials be mixed for 60–80 revolutions either in the concrete mixer or in the ready-mix truck.

**Combination with other admixtures:** Sika® ViscoCrete®-2110 is highly effective as a single admixture or in combination with other Sika admixtures. If used in combination with certain Sikament® high range water reducers it may affect the plastic properties of fresh concrete. Contact your Sika Canada Technical Sales Representative for further information.

**Combination with microsilica:** Sika® ViscoCrete®-2110 is particularly well suited for use with microsilica because of its water reduction capability.

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## BASIS OF PRODUCT DATA

Product properties are typically averages, obtained under laboratory conditions. Reasonable variations can be expected on-site due to local factors, including environment, preparation, application, curing and test methods.

## ENVIRONMENT, HEALTH & 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 recommendations, or from any other advice offered. The information contained herein does not relieve the user of the products from testing them for the intended application and purpose. 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 or may be downloaded from our website at: [www.sika.ca](http://www.sika.ca)

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### Other locations

Boisbriand (Quebec)  
Brantford; Cambridge;  
Sudbury; Toronto (Ontario)  
Edmonton (Alberta)  
Surrey (British Columbia)

### Product Data Sheet

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