LAMPIRAN
**Sika® Viscocrete® - 10**

High Performance Superplasticiser

<table>
<thead>
<tr>
<th>Description</th>
<th>Sika Viscocrete® -10 is a third generation superplasticiser for concrete and mortar. It is particularly developed for the production of high flow concrete with exceptional flow retention properties. Complies with A.S.T.M. C 494-92 Type F</th>
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</thead>
<tbody>
<tr>
<td>Uses</td>
<td>Sika Viscocrete® -10 is especially suitable for concrete mixes with prolonged transportation time and long workability, powerful water reduction and excellent flowability. Sika Viscocrete® -10 is suitable for the production of both precast concrete and ready mix concrete. Sika Viscocrete facilities extreme water reduction, excellent flowability with the same time optimal cohesion and highest self compacting behaviour. Sika Viscocrete® -10 is mainly used for the following applications :</td>
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<td>Concrete with a very high water reduction (up to 30%)</td>
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<td>High performance concrete</td>
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<td>Concrete in summer and with a prolonged transportation and workability time</td>
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<td>Watertight concrete</td>
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<td>Ready mix Concrete</td>
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<td></td>
<td>Self compacting Concrete</td>
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<td>High Strength Concrete</td>
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<td>Watertight Concrete</td>
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<td>Mass Concrete</td>
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<td>Advantages</td>
<td>Sika Viscocrete® -10 as a powerful superplasticiser acts by different mechanisms. Through surface adsorption and sterical effects separating the binder particles the following properties are achieved :</td>
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<td>Extremely powerful water-reduction, resulting in high density, high strength and reduced permeability</td>
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<td>Excellent plasticising effect, resulting in improved flowability, placing and compacting behaviour. Therefore suitable for the production of self compacting concrete.</td>
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<td>Improved shrinkage and creep behaviour</td>
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<td>Reduced rate of carbonation of the concrete</td>
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<td>Improved watertight behaviour</td>
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<td>Sika Viscocrete® -10 does not contain chlorides or other ingredients promoting corrosion of steel reinforcement. It is therefore suitable for reinforced and prestressed steel.</td>
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**Product Data**
<table>
<thead>
<tr>
<th>Appearance / Colour</th>
<th>Turbid Whitish Liquid</th>
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<tbody>
<tr>
<td>Packaging</td>
<td>200 kg drums (non returnable)</td>
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<td>Bulk delivery</td>
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</tbody>
</table>
Shelf-Life
12 months from date of production if stored properly in original and unopened packaging

Storage Condition /
Dry, shaded place, Protect from direct sunlight and frost.

Technical Data
Chemical Base
Modified polycarboxylate in water

Density
Specific density: approx. 1.06 kg/l (at +20°C)

pH-Value
4.25 ± 0.5

System Information
Dosage
Recommended dosage for a concrete with high workability
For soft plastic concrete
0.2 – 0.6% by weight of binder
For flowing and self-compacting concrete (S.C.C.)
0.5 – 1.8% by weight of binder

Application Conditions / Limits
Sika®Viscocrete®-10 may be combined with the following products:
- Plastocrete R
- Plastiment RTD-01
- Plastiment VZ
- SikaFume
- Sika AER

Pre-trials are recommended if combinations with the above products are required. Please consult our Technical Service Department.

To produce flowing and/or self-compacting concrete, special concrete mix design is required. Pre-trials are mandatory. Please consult our Technical Service Department.

Application Instructions
Dispensing
Sika®Viscocrete®-10 is added to the gauging water or simultaneously added with water into the concrete mixer.
To take advantage of the high water reduction, a wet mixing time of at least 60 seconds is recommended.
To avoid excess water in the concrete, final dosage must start after 2/3 of wet mixing time only.

Method / Tools
The standard rules of good concreting practice, concerning production as well as placing, are to be followed.

Cleaning of Tools
Clean all tools and application equipment with water immediately after use. Hardened/cured material can only be mechanically removed.

Notes on Application Limits
If frozen and/or if precipitation has occurred, Sika®Viscocrete®-10 may be used after thawing slowly at room temperature and after intensive mixing.

Protective Measure
Upon contact with skin, wash off with water and soap. In case of contact with eyes or mucous membrane, rinse immediately with clean water and seek medical attention without delay.

Important Notes
All technical data stated in this Product Data Sheet are based on laboratory tests. Actual data may vary due to changing conditions beyond our control.

Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities.
Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data be obtained from the safety data sheet.
Technical Data Sheet
Edition 2, 2005
Identification no.
02 01 01 05 000 0 000019
Version no. 0010
SikaFume®

Densified Silica Fume

Description
SikaFume is a new generation concrete additive in a fine powder form based on
Silica fume technology.
SikaFume is used as a high effective additive for the production of high quality
concrete.

Complies with ASTM C 1240-00

Use
SikaFume is used to increase the density, durability and compressive strength of
concrete.

Advantages
The use of SikaFume improves the performance characteristics of concrete in the
following ways:
- Increased workability over a longer period of time.
- Improved cohesiveness and stability of green concrete
- Durability greatly increased.
- Water permeability of concrete greatly reduced
- Permeability to gases greatly decreased
- Greatly improved resistance to carbonation
- Infiltration of chlorides greatly reduced
- Very high early and ultimate strengths

SikaFume contains no chlorides or other potentially corrosive substances. It can therefore be used with complete safety in reinforced and prestressed concrete

Dosage
3% - 10% by weight of cement
SikaFume is compatible with most of Sika admixtures.

Please consult our Technical Service Division for further information.

Instruction for Use
SikaFume should be dry-mixed with other concrete components before the mixing water is
added. After the water is added, further mixing is required to allow the even
distribution of ingredients throughout the mixed concrete.

For increased effectiveness, it is advisable to incorporate a super plasticizer such as Sikament-range into the
concrete mix.

It advisable to carry out trial mixes to establish exact dosage rate required.

Technical Data
Form
Powder

Colour
Greyish

Bulk Density
Approx. 0.60 kg/ lit

Shelf life
Minimum 3 years if stored properly in its original bag in dry place
| **Storage** | Dry, shaded place |
| **Packaging** | 20 kg bag |
Handling Precautions:
SikaFume is a powder product.
- Wearing a mask is advisable when pouring the product into the mixer.
- Avoid contact with skin and eyes.
- Wear protective gloves, mask and eye protection during work.
- If skin contact occurs, wash skin thoroughly.
- If in eyes, hold eyes open, flood with warm water and seek medical attention without delay.

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 product 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.