

PRODUCT DATA SHEET

Sika® ViscoCrete®-1003

CONCRETE ADMIXTURE FOR HIGH FLOW / SELF-COMPACTING CONCRETE

DESCRIPTION

Sika® ViscoCrete®-1003 is a third generation super-plasticiser for concrete and mortar. It is particularly developed for the production of high flow concrete with exceptional flow retention properties and significant reduction in bleeding and segregation.

USES

Sika® ViscoCrete®-1003 facilitates extreme water reduction, excellent flowability with optimal cohesion and strong self-compacting behaviour.

Sika® ViscoCrete®-1003 is used for the following types of concrete:

- High flow concrete
- Self-compacting concrete (S.C.C.)
- Concrete with very high water reduction (up to 30 %)
- High strength concrete
- Ready mix concrete
- Mass concrete
- Concrete in hot weather and with extended transportation and workability requirements etc.

The combination of high water reduction, excellent flowability and high early strength provides clear benefits in the above mentioned applications.

CHARACTERISTICS / ADVANTAGES

Sika® ViscoCrete®-1003 acts by surface adsorption on the cement particles producing a sterical separation effect. Concrete produced with Sika® ViscoCrete®-1003 exhibits the following properties:

- Excellent flowability (resulting in highly reduced placing and compacting efforts)
- Strong self-compacting behaviour
- Extremely high water reduction (resulting in high density and strengths)
- Improved shrinkage and creep behaviour
- Increased watertightness for concrete
- Increased carbonation resistance of the concrete
- Improved finish

Sika® ViscoCrete®-1003 does not contain chlorides or other ingredients which promotes steel corrosion. Therefore, it may be used without restriction for reinforced and pre-stressed concrete construction.

Sika® ViscoCrete®-1003 gives the concrete extended workability and depending on the mix design and the quality of materials used, self-compacting properties can be maintained for more than 1 hour at +30 °C.

PRODUCT INFORMATION

Chemical base	Aqueous solution of modified polycarboxylate copolymers
Packaging	200 L drums and bulk deliveries
Appearance / Colour	Liquid / Brownish
Shelf life	12 months from the date of production when stored in original unopened packaging
Storage conditions	Store in dry conditions at temperature between +5 °C and +30 °C. Protect from direct sunlight and frost.
Density	1.065 ± 0.01 kg/L (at +20 °C)

Total Chloride Ion Content < 0.1 % w/w

TECHNICAL INFORMATION

Concreting Guidance The standard rules of good concreting practice, concerning production and placing, are to be followed.
Laboratory trials before concreting on site are strongly recommended when using a new mix design or producing new concrete components.
Fresh concrete must be cured properly and as early as possible.

APPLICATION INFORMATION

Recommended Dosage	For soft plastic concrete	0.2 - 0.6 % by weight of binder
	For flowing and self compacting concrete (S.C.C.)	0.6 - 2.0 % by weight of binder

Compatibility Sika® ViscoCrete®-1003 may be combined with the following products:

- Plastiment® P121R
- Plastiment® VZ
- Sika® Fume
- SikaFibre®

Do not use viscocrete / viscoflow series combined with sikament series.
To produce flowing and / or self-compacting concrete, special concrete mix design is required.
Pre-trials are recommended and mandatory if combinations with the above products are required.
Please consult to our Technical Service Department.

APPLICATION INSTRUCTIONS

DISPENSING

Sika® Viscocrete®-1003 is added to the gauging water or simultaneously poured with it into the concrete mixer. For optimum utilisation of its high water reduction property, we recommend thorough mixing at a minimal wet mixing time of 60 seconds.
The addition of the remaining gauging water (to fine tune concrete consistency) may only be started after two-thirds of the wet mixing time, to avoid surplus water in the concrete.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

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 the exact product data and uses.

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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PRODUCT DATA SHEET

Sikament[®] NN

HIGH RANGE WATER REDUCING

DESCRIPTION

A highly effective dual action liquid superplasticizer for the production of free flowing concrete or as a substantial water-reducing agent for promoting high early and ultimate strengths. Chloride free.

USES

Sikament[®] NN is used as a super plasticizer in the production of free flowing concrete for use in:

- Slabs and foundations
- Walls, columns and piers.
- Slender components with densely packed reinforcement.
- Textured surface finishes

It is also used as a water-reducing agent leading to high early strength concrete for use in :

- Pre-cast concrete elements
- Pre-stressed concrete
- Bridges and cantilever structures
- Areas of concrete where formwork must be removed quickly or early load will be applied.

CHARACTERISTICS / ADVANTAGES

Sikament[®] NN provides the following properties :

As a Superplasticizer :

- Workability is greatly improved. Increased placeability in slender components with packed reinforcement.
- Decreases the amount of vibration required. Normal set without retardation.
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As a Water reducer :

- Up to 20% reduction of water will produce 40% increase in 28 days compressive strength.
- High strength after 12 hours.

APPROVALS / STANDARDS

Complies with A.S.T.M. C 494-92 Type F

PRODUCT INFORMATION

Chemical Base	Naphthalene Formaldehyde Sulfonate
Packaging	240 kg drum
Appearance / Colour	Dark brown
Shelf Life	1 year from the date of production in store properly in unopened original container
Storage Conditions	Store in dry, cool, shaded place
Density	1.17 – 1.19 kg/ L

APPLICATION INFORMATION

Recommended Dosage

Sikament® NN can be used at the dose rate 0.30% - 2.30% by total weight of cementitious material depending on requirements concerning workability and strength.

It is recommended that trial mixes be conducted to determine the exact dosage rate required.

Note :

- Typical dosage rate for use with silica sand is 0.60 % - 1.8% by weight of cementitious material for normal precast concrete application.
- Typical dosage rate for use with combination of manufactured sand / volcanic sand is 0.8 % - 2.3% by weight of cementitious material for normal precast concrete application.

For more specific requirements, advice is available from our Technical Service Department to determine the usage rate for optimum results.

Compatibility

Sikament® NN may be combined with the following products:

- Plastocrete series
- Plastiment series
- SikaFume
- Sika AER
- Sika Pump

Pre-trials are recommended if combinations with the above products are required.

Please consult our Technical Service Department.

APPLICATION INSTRUCTIONS

DISPENSING

Sikament® NN can be added to the mixing water prior to its addition to the aggregates or as in most cases, it can be added directly to the freshly mixed concrete.

When added directly to the freshly mixed concrete, the plasticizing effect is more pronounced.

For ready-mix concrete, Sikament® NN is added to the concrete immediately prior to discharge and after further mixing has taken place for about three to five minutes.

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