

## PRODUCT DATA SHEET

# Sika ViscoFlow®-3211N

### CONCRETE ADMIXTURE FOR HIGH FLOW / SELF COMPACTING CONCRETE

#### DESCRIPTION

Sika ViscoFlow® -3211N 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 ViscoFlow® -3211N facilitates extreme water reduction, excellent flowability with optimal cohesion and strong self-compacting behaviour.

Sika ViscoFlow® -3211N 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
- Watertight concrete

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

#### CHARACTERISTICS / ADVANTAGES

Sika ViscoFlow® -3211N acts by surface adsorption on the cement particles producing a sterical separation effect. Concrete produced with Sika ViscoFlow® -3211N 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 carbonation resistance of the concrete
- Improved finish
- Reduce tendency to bleeding and segregation

Sika ViscoFlow® -3211N 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 ViscoFlow® -3211N 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

<b>Chemical Base</b>	Aqueous solution of modified polycarboxylate copolymers
<b>Packaging</b>	200 L drums and bulk deliveries
<b>Appearance / Colour</b>	Yellowish
<b>Shelf Life</b>	12 months from the date of production
<b>Storage Conditions</b>	Stored in original unopened packaging in a cool, dry place
<b>Density</b>	1.07 ± 0.01 kg/L

## TECHNICAL INFORMATION

### Concreting Guidance

With the use of Sika Sika ViscoFlow®-3211N, concrete of the highest quality is produced. The standard rules of good concreting practice (production as well as placing) must also be observed with Sika ViscoFlow®-3211N concrete. Fresh concrete must be cured properly.

## 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 - 1.6% by weight of binder

### Compatibility

Sika ViscoFlow® -3211N may be combined with the following products:

- Plastiment VZ
- SikaFume
- SikaAER

### Restrictions

Pre-trials are recommended if combinations with the above products are required.  
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 ViscoFlow® -3211N 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 Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

### LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

#### PT. Sika Indonesia

Jl. Raya Cibinong-Bekasi km.20.

Cileungsi, Bogor 16820 - Indonesia

Tel. +62 21 8230025

Fax. +62 21 8230026

Website: [idn.sika.com](http://idn.sika.com)

email: [sikacare@id.sika.com](mailto:sikacare@id.sika.com)



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## 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.