

# PRODUCT DATA SHEET

## Sikacrete® UCS GR

SPECIAL ADMIXTURE WITH SILICA FUME FOR UNDERWATER CASTINGS



### DESCRIPTION

Sikacrete® UCS GR is a new generation powder admixture for concrete and mortars, that significantly improves cohesion of the mix.

### USES

Sikacrete® UCS GR is used for:

- Underwater and near sea castings
- Near shore constructions
- Extensions, artificial islands, breakwaters
- Channels, bottoms and bridge support
- Reinforcement of near sea constructions
- Foundations in very absorbent substrates

### CHARACTERISTICS / ADVANTAGES

Sikacrete® UCS GR is composed of colloidal products and sub-micron ultra-fine reactive particles which, in contact with water, form a viscous paste that increases the cohesiveness of the mixtures. Hardened cement past has increased strength and very dense crystalline structures. Sikacrete® UCS GR attributes to the mix the following properties:

- Affects the thixotropy, the cohesiveness and the homogeneity of the mix
- Reduces washing of cement past from water
- Does not contain chlorides or any other substances with may attack the reinforcement. Can be used in reinforced and prestressed concrete.
- Compatible with all cement types
- Can be used in contact with drinking water

### APPROVALS / CERTIFICATES

CE-marking and Declaration of Performance as Viscosity modifying admixture according to EN934-2:2009+A1:2012 (Table 13), based on certificate of factory production control issued by notified factory production control certification body and type testing.

### PRODUCT INFORMATION

<b>Chemical base</b>	Combination of active hydraulic additives in latent phase
<b>Packaging</b>	Plastic bag 3 kg (5,1 lt)
<b>Appearance / Colour</b>	Fine powder, grey
<b>Shelf life</b>	12 months from date of production
<b>Storage conditions</b>	Store properly in original, undamaged, sealed packaging, in dry conditions. Protect from direct sunlight and frost.
<b>Bulk Density</b>	~ 0,6 kg/l

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## TECHNICAL INFORMATION

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### Concreting Guidance

The standard rules of good concreting practice, concerning production as well as placing, are to be followed. Refer to relevant standards. Fresh concrete must be cured properly.

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## APPLICATION INFORMATION

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### Recommended Dosage

Sikacrete® UCS GR is normally used at a rate of 1 to 3 doses of 3 kg/m<sup>3</sup> of concrete or mortar, independently of the cement content.

The recommended dosage is:

- 1 dose of 3 kg/m<sup>3</sup> concrete (without current and with a small depth)
  - 2 doses of 3 kg/m<sup>3</sup> concrete (with a small current and/or a head < 3 m)
  - 3 doses of 3 kg/m<sup>3</sup> concrete (with a strong current and/or a head > 3 m)
  - Dosages from 1 to 1,5 kg/m<sup>3</sup> can be used in cases of foundations on absorbent soil
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### Compatibility

Sikacrete® UCS GR can be combined with the following Sika products:

- Sikament® superplasticizers
- Sika® ViscoCrete® superplasticizers
- SikaRapid® -2
- Sika® Ferrogard®-901
- Sika® Visco I-100

Trials are recommended before combining products.

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### Dispensing

Sikacrete® UCS GR must be mixed with the dry aggregate and cement mix, before the addition of mixing water. It is recommended to mix all the dry constituents for 30 sec/m<sup>3</sup> prior to the water addition, so as to distribute evenly the powder. After the water addition, it is recommended to mix all materials for 90 sec/m<sup>3</sup>. The concrete consistency must be fluid: slump in Abrams' cone = 20 ± 2 cm, DIN table screed = 60 cm. No water should be further added.

It is important to mention the fact that the addition of Sikacrete® UCS into concrete provides a thixotropic ("sticky") effect.

Sika® Visco I-100 admixture is recommended for underwater concrete in cases of difficulties during pumping.

For calculation of the proper water amount, the exact dosage of Sikacrete® UCS GR, the dosage of the superplasticizer and the final demanded concrete properties have to be taken into account.

In all cases before application, suitability tests must be performed.

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### Restrictions

- When using Sikacrete® UCS GR a suitable mix design has been taken into account and local material sources should be trialled.
  - Before application, suitability tests must be performed.
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## 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 performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

## 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-re-

lated 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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