

## PRODUCT DATA SHEET

# SikaFume<sup>®</sup>-50 S (GB)

### Silica Fume Slurry Admixture for High Performance Concrete

#### PRODUCT DESCRIPTION

SikaFume<sup>®</sup>-50 S (GB) is a modified concrete additive in liquid form based on Sika<sup>®</sup> silica fume / microsilica technology. It is a formulated blend of highly reactive pozzolanic materials and stabilisers designed to produce high quality concrete. SikaFume<sup>®</sup>-50 S (GB) is particularly suitable for chemical resistance, exposure to aggressive atmospheres, abrasion and high strength mixes. It should always be used in conjunction with a superplasticiser from the Sika range, or equivalent, subject to trials.

#### USES

Typical applications include:

- Concrete subject to heavy traffic or wear and tear
- Concrete in aggressive chemical environments
- Sprayed concrete
- Concrete exposed to air pollution (urban and industrial areas)

#### CHARACTERISTICS / ADVANTAGES

SikaFume<sup>®</sup>-50 S (GB) improves properties of the fresh concrete, such as cohesion, bond and water efficiency. In hardened concrete the highly active pozzolanic material reacts with the free lime produced by the hydration of the cement to improve the strength, density and durability of the concrete. SikaFume<sup>®</sup>-50 S (GB) enhances the following characteristics:

- Cohesion
- Early and final strength
- Impermeability to liquids and gases
- Chloride, sulfate and acid resistance
- Resistance to alkali-silica reaction in aggregates
- Resistance to freeze/thaw cycles and abrasion

#### APPROVALS / STANDARDS

SikaFume<sup>®</sup>-50 S (GB) conforms to the requirements of BS EN 13263-1:2005+A1:2009, Silica fume for concrete Class 1.

DoP 76670302, certified by Factory Production Control Body 0099 and provided with the CE mark.

#### PRODUCT INFORMATION

<b>Packaging</b>	SikaFume <sup>®</sup> -50 S (GB) is supplied in 1000 litre IBC's and in bulk tanker
<b>Shelf Life</b>	Six months from date of delivery, given correct storage of material. Material must be fully stirred / agitated on a regular basis during use
<b>Storage Conditions</b>	Store in closed containers to prevent contamination, stir / agitate regularly and protect from frost. For best results refer to SikaFume <sup>®</sup> -50 S (GB) Storage and Dispensing Guide, available separately
<b>Appearance / Colour</b>	Grey slurry
<b>Density</b>	1.38 kg/L ± 0.02
<b>Total Chloride Ion Content</b>	<0.10 % w/w (typical, chloride free)
<b>Equivalent Sodium Oxide</b>	0.16 % w/w (typical alkali content)
<b>Concreting guidance</b>	Concrete with SikaFume <sup>®</sup> -50 S (GB) will be subject to reduced bleed. As

such, proper curing is essential with a product such as Sika® Antisol®.

#### Concrete Mix Design

SikaFume®-50 S (GB) will only enhance durability if a minimum cement content of 350 kg/m<sup>3</sup> is used. The water/cement ratio should not exceed 0.45. If necessary, increased dosage of Sika superplasticisers can be added. In such cases trials should always be made before full scale production is commenced. SikaFume®-50 S (GB) is a slurry comprising 50% water by weight and the water content should be included in calculated concrete water/cement ratio.

#### Concrete Mixing Time

SikaFume®-50 S (GB) may require additional mixing time depending upon the efficiency of the mixer used.

### SYSTEM INFORMATION

#### Compatibility

SikaFume®-50 S (GB) is compatible with other Sika admixtures or equivalent and trials are recommended to ascertain optimum dosage. Please contact Sika technical services for more information.

### APPLICATION INFORMATION

#### Recommended Dosage

The addition rate of SikaFume®-50 S (GB) is generally between 5 and 20% by weight of cement (total mass of slurry) equating to 2.5 - 10 % dosage of silica fume powder. Contact Sika technical services for detailed advice on the dosage requirements.

#### Dispensing

SikaFume®-50 S (GB) should be added with the mixing water. Ensure no settlement of the SikaFume®-50 S (GB) has occurred during storage, thoroughly re-mix if required. Due to material density and solids content, specialist pumps are recommended for dispensing, contact your local Sika representative for additional information.

#### Compatibility

SikaFume®-50 S (GB) is compatible with all common cement types, contact Sika technical services for specific information.

### VALUE BASE

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.

### ECOLOGY, HEALTH AND SAFETY

#### REGULATION (EC) NO 1907/2006 - REACH

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 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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