

PRODUCT DATA SHEET

SikaFume[®]-50 S

Silica Fume Slurry Admixture for High Performance Concrete

PRODUCT DESCRIPTION

SikaFume[®]-50 S is a modified concrete additive in liquid form based on Sika[®] silica fume / microsilica technology. It is a formulated blend of highly reactive pozzolanic materials and stabilisers designed to produce high quality concrete. SikaFume[®]-50 S 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

Concrete exposed to aggressive liquids:

- Farm and food processing industries: silos, floors etc
 - Chemical industries: floors, chemical fertiliser storage etc
 - Service Stations: oils, fuels, washing areas etc
 - Sewage treatment plants: structures, sewers, etc
 - Foundations: waterproofing structures etc
 - Sprayed concrete applications
- Concrete exposed to aggressive atmospheres:
- Marine constructions
 - Concrete exposed to air pollution (urban and industrial areas)

Concrete exposed to erosion and abrasion:-

- Construction of culverts – dams – concrete subject to heavy traffic or wear and tear

CHARACTERISTICS / ADVANTAGES

SikaFume[®]-50 S 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 strength, density and durability of the concrete.

SikaFume[®]-50 S will provide the following benefits:

- Enhanced cohesion
- Increased early strength
- Increased final strength
- Increased impermeability to liquids
- Increased impermeability to gases
- Reduced chloride penetration
- Reduced alkali silica reaction in aggregates
- Increased resistance to freeze/thaw cycle
- Increased resistance to acids
- Increased resistance to abrasion.

APPROVALS / STANDARDS

SikaFume[®]-50 S conforms to the requirements of BS EN 13263-1:2005+A1:2009

DoP 83051057, certified by Factory Production Control Body 0770 and provided with the CE mark.

PRODUCT INFORMATION

Chemical Base	Slurry of 50% silica fume by mass (± 2 %)
Packaging	SikaFume [®] -50 S is supplied in 1000 litre IBC's and in bulk.
Shelf Life	Six months from date of delivery, given correct storage of material. Material must be fully stirred / agitated on a regular basis during use.
Storage Conditions	Store in closed containers to prevent contamination, stir / agitate regularly and protect from frost. For best results refer to SikaFume [®] -50 S Storage and Dispensing Guide, available separately.

Appearance / Colour	Grey slurry
Density	1.37 kg/L ± 0.02
pH-Value	5.5 +/- 1.0
Total Chloride Ion Content	<0.1 % w/w (chloride free)
Equivalent Sodium Oxide	<0.12 % w/w (alkali content)

TECHNICAL INFORMATION

Concreting guidance	Concrete with SikaFume®-50 S 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 will only enhance durability if a minimum cement content of 350 kg/m ³ is used. The w/c ratio should not exceed 0.45. If necessary further dosage of Sika superplasticisers can be added. In such cases trials should always be made before full scale production is commenced. SikaFume®-50 S is a slurry comprising 50% water (+/-1%) and as such the water content should be included in calculated concrete water/cement ratio.
Concrete Mixing Time	SikaFume®-50 S may require additional mixing time depending upon the efficiency of the mixer used.

SYSTEM INFORMATION

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

Recommended Dosage	The addition rate of SikaFume®-50 S is generally between 5 and 20% by weight of cement. Contact Sika technical services for detailed advice on the dosage requirements.
Dispensing	SikaFume®-50 S should be added with the mixing water. Ensure no settlement of the SikaFume®-50 S 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 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

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.

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

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