

# SikaFume® -HR

## Concrete additive containing silica fume

### Product Description

SikaFume®-HR is a concrete additive of a new generation in powder form, based on Sika® silicafume technology.

### Uses

SikaFume®-HR is used in following application fields of concrete constructions where high demands are imposed on the quality of fresh and hardened concrete or mortar.

- n Structural concrete
- n Precast concrete
- n Shotcrete,
- n Constructions subjected to chemical effects (sewages, ports i. e.)
- n High performans on fresh and hardened concrete quality

### Characteristics / Advantages

SikaFume®-HR contains extremely fine (0.1µm) latently reactive silicon dioxide. The presence of this substance imparts greatly improved internal cohesion and water retention. The concrete becomes extremely soft and pumping properties are substantially improved. In the set concrete the latently reactive silica fume forms a chemical bond with the free lime. The additional crystal formation produces a significantly more dense set cement matrix.

When additionally using Sikament superplasticiser, the concrete will show the following properties:

- n Excellent workability
- n Increased durability
- n High early strengths
- n Increased ultimate strengths
- n Increased resistance to abrasion
- n Highly increased water tightness
- n Highly increased gas tightness
- n Highly reduced chloride diffusion
- n Chloride free - does not attack any reinforcement

### Product Data

#### Form

**Appearance / Colour** Light grey powder

**Packaging** 15 and 25 kg bags

#### Storage

**Storage Conditions / Shelf life** 12 months from date of production if stored in undamaged and unopened, original sealed bags, in dry conditions protected from direct sunlight. It is not affected by frost.



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**Technical Data**

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**Chemical Base** Powder containing silica fume

**Density** 0,65±0,10 kg/l (powder)

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**System Information**

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**Application Details**

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**Dosage** 2 - 10% by weight of cement. For optimum results in concrete, always use in conjunction with a suitable plasticizer from Sikament® and ViscoCrete® series.

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**Application Conditions / Limitations**

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**Compatibility** SikaFume®-HR may be combined with following Sika® admixtures.

- Sika® Aer®
- SikaRapid®
- Sika® FerroGard 901
- SikaPump®
- Sika Retarder®
- Sika® Antifreeze %1
- Sika® Antifreeze 1000
- Sika® Antifreeze 2000
- Sikament ve ViscoCrete serisi ürünler

Trials are always recommended before combining products.

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**Application Instructions**

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**Dispensing** SikaFume®-HR is added with the cement to the concrete at the batching plant before the gauging water. Optimum mixing time: 90 seconds. The quantity of water should be adjusted to suit the dosage of SikaFume®, Sikament and the final consistency required.

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**Application Method / Tools** 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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**Cleaning of Tools** Clean all tools and application equipment with water immediately after use. Hardened / cured material can only be mechanically removed.

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**Notes on Application / Limitations**

- n** SikaFume®-HR concrete should be handled and placed in the same way as conventional mixes. Standard good concreting practice should be observed throughout, and proper curing procedures should be initiated immediately after placement.

**n** Before application, suitability tests must be performed.

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**Notes** 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

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**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.

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**Health and Safety Information** For information and advice on the safe handling, storage and disposal of chemical products, users should refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety-related data.

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## 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.



Sika Yapı Kimyasalları A.Ş.  
Çamçeşme Mah. Sanayi Cad.  
34899 Kaynarca Pendik  
İstanbul Türkiye  
Tel +90 216 494 19 90  
Faks +90 216 494 19 84  
[www.sika.com.tr](http://www.sika.com.tr)

