

## PRODUCT DATA SHEET

# Sika MonoTop® HSF

## High Strength Structural Repair Mortar

### DESCRIPTION

Sika MonoTop® HSF is a single component cementitious, silica fume containing, synthetic fibre reinforced, structural repair mortar that contains Portland Cement, well graded sands, specially selected fibres and additives to improve the fresh and hardened properties.

Suitable for use in hot and tropical climatic conditions.

### USES

Sika MonoTop® HSF is used for structural repair work and suitable for:

- Restoration works, repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works.
- Structural strengthening by increasing the bearing capacity of the concrete structure by adding mortar (section enlargement).
- Preserving or restoring passivity by increasing cover with additional mortar and replacing contaminated or carbonated concrete.

### CHARACTERISTICS / ADVANTAGES

Sika MonoTop® HSF provides the following beneficial properties:

- Structural repair
- Rapid strength gain and high final strength
- Good water and oil resistance
- Low shrinkage behaviour
- High abrasion resistance
- Good adhesion
- Easy to apply
- Application up to 60 mm in 1 layer
- Low permeability

### PRODUCT INFORMATION

<b>Composition</b>	Polymer containing cementitious mortar with different additives and synthetic fibres
<b>Packaging</b>	25 kg paper bags
<b>Shelf life</b>	12 months minimum from date of production
<b>Storage conditions</b>	Store in a cool, dry area in original sealed packaging and at temperatures between +5 °C and +35 °C. Protect from direct sunlight, heat and moisture.
<b>Appearance / Colour</b>	Grey powder
<b>Maximum grain size</b>	~2 mm

## TECHNICAL INFORMATION

Compressive strength	<b>w/p = 0.14</b>	<b>1 day</b>	<b>7 day</b>	<b>28 day</b>	(ASTM C109)
		≥ 25 N/mm <sup>2</sup>	≥ 45 N/mm <sup>2</sup>	≥ 65 N/mm <sup>2</sup>	
Tensile adhesion strength	≥ 1.5 N/mm <sup>2</sup> (or concrete failure)				(BS 1881)

## APPLICATION INFORMATION

Mixing ratio	3.50 - 4.0 L of water per 25 kg bag
Fresh mortar density	~2.15 kg/l (+25 °C)
Layer thickness	Min. 5 mm Max. 60 mm
Ambient air temperature	+5 °C min. / +40 °C max.
Substrate temperature	+5 °C min. / +40 °C max.

## 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.

## FURTHER INFORMATION

Method Statement

## IMPORTANT CONSIDERATIONS

- Repair sections higher than 60 mm should be applied in layers.
- When the ambient temperature is high during summer months, special precautions must be taken so that the mixed material is not above 32 °C. Please consult Sika Technical Department.
- Avoid application in direct sun and/or strong wind.
- Do not add additional water during the surface finishing as this will cause discolouration and cracking.
- Do not over work the finished surface as this will produce a cement rich surface texture, which may cause the formation of random (crazing) cracking in the surface. Over work of the finished surface could also disturb the mortar bond on the concrete substrate.

## 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.

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

- Substrates must be properly cured, structurally sound, free of any loose or friable particles, clean, dry and free of any contaminants such as dust, dirt, oil, grease, cement laitance or efflorescence.
- Depending on the substrate condition and contaminants to be removed from the surface, perform adequate preparation techniques, such as water-jet washing or blast cleaning, in order to remove all traces of any materials that could reduce the product's adhesion to the substrate.
- For applications in hot climates / environments and / or on absorbent substrates, thoroughly pre-dampen the surface immediately prior to the product application, but avoid any ponding / standing water on the surface, which must not be damp to touch and not with a dark-matt / wet surface appearance i.e. it must be saturated surface dry (SSD).
- Steel surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water-blasting to SA 2 (ISO 8501-1)
- Reference shall be made to EN1504-10 for specific requirements.

### BONDING AGENT AND STEEL PROTECTION

- Embedded steel reinforcing should be free from scale, rust, oil and grease, and treated with a suitable anticorrosion coating such as SikaTop® Armatec®-110 EpoCem®.
- The application of a suitable bonding agent, such as Sikadur®-32 LP or SikaTop® Armatec®-110 EpoCem®, will improve adhesion on large areas or where particularly dense concrete substrates are involved.

### MIXING

Mix 25 kg bag with the necessary, above mentioned, amount of cold water, using an electric blender with a suitable mixing spiral, in a clean bucket. Add the Sika MonoTop® HSF powder slowly while mixing continuously for at least 3 minutes and until a homogeneous

consistency is achieved.

Sika MonoTop® HSF is best mixed in a forced action mixer. Slow speed double paddle drill can be also used for mixing. Do not mix at faster rate than 500 rpm, because of mechanical strength decay of the cured product. The obtained mix results very creamy, easily spreadable and thixotropic.

## APPLICATION

Apply Sika MonoTop® HSF while the bonding agent is still wet. The mortar can be applied by spatula or trowel.

For any thickness more than 60 mm, Sika MonoTop® HSF must be applied in several layers.

As soon as the mortar has started to set it can be smoothed by wooden or synthetic float. For fine surface finish SikaRep® Fine N, SikaRep® Fine PC can be applied over the Sika MonoTop® HSF.

## CURING TREATMENT

Where ambient conditions may lead to rapid surface drying, the use of light water fogging for 48 hours or application of a suitable water based curing compound like Sika® Antisol WB is recommended. Do not commence fogging until final set has been reached.

## CLEANING OF EQUIPMENT

Clean all tools and equipment with water immediately after use. Hardened Sika MonoTop® HSF can only be removed mechanically.

## LOCAL RESTRICTIONS

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