

## PRODUCT DATA SHEET

# Sika MonoTop®-722 Mur

1-component Mortar for repair and reinforcement of masonry



### DESCRIPTION

Sika MonoTop®-722 Mur is a ready to use, 1 component, fiber reinforced cementitious mortar with reactive pozzolanic components, selected aggregates and special additives. Sika MonoTop®-722 Mur in combination with a suitable glass fiber grid provides an efficient consolidation of masonry. Stress due to support movements is distributed on a larger surface in order to avoid cracks and detachment of the mortar.

### USES

- Sika MonoTop®-722 Mur is suitable for patch repair, bed joint repair, and application on: solid brick, stone and mixed masonry, sound tuff blocks and masonry curtain walls.
- Sika MonoTop®-722 Mur in combination with SikaWrap®-340G Grid AR is designed for reinforcement of masonry constructions, to improve connection between masonry panels and reinforced concrete frames and to increase the seismic deformation capacity of masonry walls.
- Sika MonoTop®-722 Mur in combination with SikaWrap®-350G Grid is designed for securing the ceiling of existing hollow-core brick slabs.
- Suitable for restoration work (Principle 3, Method 3.1 of EN 1504-9) and detachment of damaged concrete in buildings, bridges, infrastructure and superstructures.
- Suitable for use as guaranteed performance masonry mortar (EN 998-2) for general purposes for external use on structural elements.
- Suitable for use as mortar for general purposes (type GP of EN 998-1) for internal and external plasters.

### CHARACTERISTICS / ADVANTAGES

- High adhesion on traditional substrates (brick, stone and porous surfaces)
- Low modulus of elasticity: the product follows the substrate movements without detachment
- No consolidation of weak substrates required before application
- Good workability
- High compatibility with many substrates
- Non-sag, even overhead
- It is possible to finish the product with sponge trowel

### SUSTAINABILITY

- Conformity with LEED v4 MRc 2 (Option 1): Building Product Disclosure and Optimization – Environmental Product Declarations

### APPROVALS / CERTIFICATES

- Sika MonoTop®-722 Mur fulfills the minimum performance required for the class R2 of EN 1504-3, provided with the CE Marking and Declaration of Performance
- Sika MonoTop®-722 Mur fulfills the minimum performance required for the class M20 of EN 998-2, provided with the CE Marking and Declaration of Performance
- Sika MonoTop®-722 Mur fulfills the minimum performance required for the class GP of EN 998-1; provided with the CE Marking and Declaration of Performance

## PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Grey powder
Shelf life	12 months from date of production
Storage conditions	The product must be stored properly in original sealed packaging, complying with all usual cement product storage requirements.
Density	Density of hydrated mix: $1.85 \pm 0.05$ kg/L Density of dry product: $\sim 1400$ kg/m <sup>3</sup> (EN 1015-10)
Maximum grain size	$D_{\max} = 1.4$ mm
Soluble chloride ion content	$\sim 0.005$ % (EN 1015-17)

## TECHNICAL INFORMATION

Compressive strength	Class R2 (EN 1504-3)	
	Class CS IV (EN 998-1)	
	Class M20 (EN 998-2)	
	$\sim 22$ MPa (EN 12190)	
	$\sim 22$ MPa (EN 1015-11)	
	<u>1 day</u>	<u>7 days</u>
	$\sim 5$ MPa	$\sim 17$ Mpa
Modulus of elasticity in compression	$\sim 7.6$ GPa (UNI EN 13412)	
Tensile strength in flexure	$\sim 6$ MPa (EN 1015-11)	
Tensile adhesion strength	$\sim 1.6$ MPa (B) (EN 1542)	
	0.15 MPa (tabulated value) (EN 1052-3)	
	$\sim 0.8$ MPa (FP: A) (EN 1015-12)	
Thermal compatibility	Freeze thaw (50 cycles) $\sim 1.22$ MPa (EN 13687-1)	
Reaction to fire	Euroclass A2 (EN 13501-1)	
Permeability to water vapour	$\mu$ 15/35 (EN 1742 A.12)	
	$\mu \sim 135$ (EN 1015-19)	
Capillary absorption	Class W2 (EN 998-1)	
	$\sim 0.45$ kg m <sup>-2</sup> h <sup>-0.5</sup> (EN 13057)	
	$\sim 0.2$ kg m <sup>-2</sup> min <sup>-0.5</sup> (EN 1015-18)	
Water penetration after capillary absorption	$\sim 3.00$ mm (EN 1015-18)	
Thermal conductivity	$\sim 0.83$ W/mK (EN 1745 A.12)	

# SYSTEMS

## System structure

System for reinforcement of masonry constructions, to improve connection between masonry panels and reinforced concrete frames and to increase the seismic deformation capacity of masonry walls:

- Sika MonoTop®-722 Mur: 1-component Mortar for repair and reinforcement of masonry
  - SikaWrap®-340G Grid AR: AR glass fiber grid with AR coating
  - SikaWrap® Anchor G: Glass fiber connector for structural connections
- System Sika® Safe RM for securing the ceiling of existing hollow-core brick slabs:
- Sika MonoTop®-722 Mur: 1-component Mortar for repair and reinforcement of masonry
  - SikaWrap®-350G Grid: E glass fiber grid with AR coating
  - Mechanical anchors

## APPLICATION INFORMATION

Mixing ratio	19 - 21% by weight of water; ~ 4.75 – 5.25 litres of water for 25 kg of powder
Consumption	~ 1.50 kg/m <sup>2</sup> per mm thick
Layer thickness	5 mm minimum / 15 mm maximum per layer
Consistency	Plastic/thixotropic consistency
Product temperature	+ 5°C min. / + 35°C max.
Ambient air temperature	+ 5°C min. / + 35°C max.
Substrate temperature	+ 5°C min. / + 35°C max.
Pot Life	~ 30 minutes at +20°C

## APPLICATION INSTRUCTIONS

### SUBSTRATE QUALITY / PRE-TREATMENT

The existing plaster has to be completely removed. Thoroughly clean the masonry by pressurised water cleaning techniques (200 – 400 bars) or sand blasting. Substrate must be sound, free from dust and all contaminants such as oil, grease, coatings and surface treatments etc.

Remove any loose joint material and if required fill bed joint using Sika MonoTop®-722 Mur. Allow sufficient curing time before overcoating the product. Contact technical support immediately if there are any signs of leaching efflorescence on the substrate surface.

The surface shall be thoroughly pre-wetted and not allowed to dry before application of Sika MonoTop®-722 Mur. The substrate surface shall achieve a dark matt appearance without glistening and surface pores and joints shall not contain water.

### MIXING

Sika MonoTop-722 Mur shall be mixed with a low speed (< 500 rpm) hand drill mixer. When mixing more bags at once use a suitable positive forced action mixer.

Pour the water in the correct proportion into a suitable mixing container. While stirring slowly, add the

powder to the water. Mix thoroughly for at least 3 minutes to the correct consistency.

It is recommended to only mix whole bags. Avoid partial mixes which could lead to incorrect particle-size distribution of the aggregates.

### APPLICATION

Sika MonoTop®-722 Mur can be applied manually, using traditional techniques, or mechanically using wet spray equipment.

When applied manually, apply the product in 2 layers and always ensure to press the mortar with a trowel firmly on the substrate.

First apply a 5mm layer of Sika MonoTop®-722 Mur on the substrate. Place the glass fibre grid onto the surface of the fresh mortar taking care not to embed the grid too deep into the mortar. Ensure sufficient overlapping. Add a second 5 mm layer of Sika MonoTop®-722 Mur over the top of the grid and 1st mortar layer (total layer thickness ~10 mm).

It's not required to apply a bonding layer before the application. The product may be applied directly on properly prepared and dampened masonry, as described above.

The second layer can be applied fresh-on-fresh or on the cured first layer.

In case a higher thickness of the system is needed (more than 10 mm), increase the thickness of the first layer up to 15 mm. Do not increase the thickness of

the second layer which has to be 5 mm.  
Finishing of fresh mortar surface (as soon as the mortar has started to stiffen) according to project requirements using foam or metal float is possible.  
If a skimming layer is requested, apply a cement based high adhesion product such as Sika MonoTop®-621 Evolution or SikaRep® Finish Plus. Do not overcoat Sika MonoTop®-722 Mur with a lime based product.  
For large surface application, the product may be applied using suitable wet spray equipment (e.g. Turbosol or Putzmeister) or using plaster sprayer (e.g. PFT G4 or G5). Follow the same application sequence and apply the same layers thickness as manual application.

### CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

### IMPORTANT CONSIDERATIONS

- Avoid application by throwing (usually adopted for repair mortars)
- Avoid application during strong wind or in direct sunlight
- Protect freshly applied material from freezing, rain or condensing water
- Take care to place the glass fiber grid on an adequately thick layer of Sika MonoTop®-722 Mur in order to avoid direct contact between masonry and grid.

### 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-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.

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