BUILDING TRUST

PRODUCT DATA SHEET

Sika MonoTop® R

POLYMER MODIFIED CEMENTITIOUS HAND PLACED / WET SPRAY REPAIR MORTAR

DESCRIPTION

Sika MonoTop® R is a one part, thixotropic, polymer modified, cementitious mortar containing silica fume, cures to produce a high strength mortar with enhanced polymeric properties.
Sika MonoTop® R exhibits high bond strength, greatly reduced water and carbon dioxide permeability and improved resistance to oils and chemicals.

USES

- Fast repairs to horizontal or vertical concrete or mortar surfaces above and below ground level
- Filling / repair mortar for voids, honeycombed areas, etc.
- Repair of spalled concrete caused by reinforcement corrosion
- Spray applied repairs
- Repairs with improved resistance to oils, sewage, chemicals, etc.

CHARACTERISTICS / ADVANTAGES

- Fast and easy to apply in layers up to 20 mm thick
- 1-part system requiring only addition of clean water
- Compatible with the thermal expansion properties of concrete
- Non-corrosive to reinforcing steel
- Contains fibres to prevent micro cracking
- Non-shrink
- Excellent freeze / thaw resistance
- Good resistance to water immersion

PRODUCT INFORMATION

Packaging	25 kg bag
Appearance / Colour	Concrete grey powder
Shelf Life	6 months from the date of production
Storage Conditions	Store properly in original, unopened and undamaged sealed packaging in dry conditions. Keep away from direct sunlight.
Density	Freshly mixed mortar ~2.0 kg/l

TECHNICAL INFORMATION

Compressive Strength	1 day	> 15.0 N/mm² (+25 °C)	(ASTM C109)
	28 days	45.0–50.0 N/mm² (+25 °C)	
Modulus of Elasticity in Compression	~29 GPa		(BS 1881: Part 121)

Tensile Adhesion Strength	> 1.5 N/mm² (with bonding bridge)	(ASTM D4541)
Water Absorption	< 3 % (at 30 mm)	(BS 1881: Part 122)

SYSTEM INFORMATION

System Structure	Sika MonoTop® System comprises: ▪ Sika MonoTop®-610 MY bonding bridge and reinforcement protection ▪ Sika MonoTop®-615 SD or Sika MonoTop® R hand and wet spray applied repair mortar ▪ Sika MonoTop®-620 MY pore sealer / fairing coat

APPLICATION INFORMATION

Mixing Ratio	**Hand application** Approximately 3.4–3.5 litres of clean water per 25 kg bag as per required consistency. **Wet spray application** 3.4–4.5 litres of clean water per 25 kg bag.
Consumption	▪ ~71 bags per m³ ▪ 1 bag yields ~14 L of mortar
Layer Thickness	20 mm max. (vertical application) / 3 mm min.
Ambient Air Temperature	+6 °C min. / +40 °C max.
Substrate Temperature	+6 °C min. / +40 °C max.
Pot Life	~20 minutes (+30 °C)

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete
All concrete and mortar substrates must be structurally sound, laitance free, clean and free from dirt, oil, grease or other surface contaminants. All loose or friable particles must be removed.
For large concrete areas, grit or grit-water blasting, scarifying or scabbling is recommended. For small areas and “spot” repairs, needle gunning or scabbling is effective.
The prepared substrate should be thoroughly soaked with clean water until uniformly saturated but with no standing surface water. This condition is referred to as saturated surface dry (SSD) and care should be taken to remove any cement slurry or dust produced during surface preparation. The use of a “fan” shaped water jet is ideal.

Steel reinforcement
Steel reinforcement surfaces must be clean from rust, oil, grease or any other loosely adhering particles to provide a rust free surface.
Surfaces should be prepared using approved abrasive blast cleaning techniques e.g. wire-brushed or water / grit blasted and primed with 2 coats of Sika MonoTop®-610 MY (refer to Sika MonoTop®-610 MY data sheet).

MIXING

Sika MonoTop® R should be mechanically mixed in a clean drum using a drill and paddle. A normal concrete mixer is not suitable. Pour the mixing water into a clean drum. While stirring slowly, add Sika MonoTop® R to the water. Mix for a minimum 3 minutes to ensure that the components are thoroughly blended and at a maximum speed of 500 rpm to minimise air entrainment. Mix only what you require taking into consideration the pot life of the material.

APPLICATION

Hand application
Work “wet on wet” the mixed mortar well into the substrate, using a placing rather than a rendering technique to fill all pores and voids. Compact well. Force material against the edge of the repair, working towards the centre.
For repairs in excess of 20 mm deep, apply in layers and form keys for the subsequent layers. If previous layers are over 48 hours old, needle gun the surface and dampen before applying the next layer. Steel trowel the final coat if required.
The Sika MonoTop® R and surrounding areas can be further treated with SikaTop® Seal-107 or Sika MonoTop®-620 MY to provide a water and carbonation resistant finish.

Sprayed application
The repair mortar shall be placed onto the pre-wetted substrate between the minimum and maximum layer thicknesses without the formation of voids and loose rebound material. Where layers are to be built up to prevent sagging or slumping, each layer should be allowed to stiffen before applying subsequent layers “wet on wet”. When layers cannot be applied “wet on wet”, or if more than 24 hours between layers, apply a

bonding primer of Sika® MonoTop-610 MY or SikaTop® Armatec-110 EpoCem® and apply repair mortar “wet on wet”.
Finishing for both hand and spray applications should be done to the required surface texture as soon as the mortar has started to stiffen.

CURING TREATMENT

To achieve the full potential of any cement based products, curing is essential. This can be carried out with the application of a curing compound such as Antisol® E or with other curing practices such as covering with polythene sheets or damp hessian for 3 days.

CLEANING OF TOOLS

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

LIMITATIONS

- Repairs with Sika® MonoTop® System cannot bridge live cracks or moving joints, etc.
- Repairs in excess of 20 mm must be layered.
- Sika MonoTop® mortars that are wetted during the initial cure period may produce a white “bloom” on the surface which does not affect the long term properties of the mortar.

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.

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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