

PRODUCT DATA SHEET

Sika MonoTop® R-40

POLYMER MODIFIED CEMENTITIOUS PATCH REPAIR MORTAR

DESCRIPTION

Sika MonoTop® R-40 is a one part, thixotropic, polymer modified, cementitious mortar containing silica fume. It cures to produce a high strength mortar with enhanced polymeric properties.

Sika MonoTop® R-40 exhibits high bond strength, greatly reduced water and carbon dioxide permeability and improved resistance to oils and chemicals.

USES

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

CHARACTERISTICS / ADVANTAGES

- Fast and easy to apply in layers up to 40 mm thick
- Compatible with the thermal expansion properties of concrete
- Chloride free
- Non corrosive to reinforcing steel
- Non toxic, suitable for potable water
- Contains fibres to prevent micro cracks
- 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 at temperatures between +5 °C and +30 °C. Keep away from direct sunlight, rain and water.

TECHNICAL INFORMATION

Compressive Strength	24 hours	> 15 N/mm ²	(ASTM C109)
	7 days	> 30 N/mm ²	
	28 days	> 40 N/mm ²	

SYSTEM INFORMATION

System Structure	Sika MonoTop® System comprises: <ul style="list-style-type: none">▪ Sika MonoTop®-610 MY bonding bridge and reinforcement protection▪ Sika MonoTop®-615 SD or Sika MonoTop®-R or Sika MonoTop® R-40 repair mortar▪ Sika MonoTop®-620 MY pore sealer / fairing coat
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APPLICATION INFORMATION

Mixing Ratio	3.30–3.50 L of clean water per 25 kg bag to suit desired consistency				
Fresh mortar density	~2.0 kg/l				
Yield	<ul style="list-style-type: none">▪ ~71 x 25 kg bag per m³▪ 1 bag yields ~14 L of mortar				
Layer Thickness	3–40 mm (vertical application)				
Ambient Air Temperature	+5 °C min. / +40 °C max.				
Substrate Temperature	+5 °C min. / +40 °C max.				
Pot Life	<table><tr><td>+20 °C</td><td>30 minutes</td></tr><tr><td>+30 °C</td><td>25 minutes</td></tr></table>	+20 °C	30 minutes	+30 °C	25 minutes
+20 °C	30 minutes				
+30 °C	25 minutes				

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete

Surfaces must be sound, clean and free from oils, grease, standing water and any loose or friable adhering particles and any other surface contaminants. The concrete “pull off” (tensile) strength must be > 1.0 N/mm². Proper surface preparation is essential to achieve the high adhesive qualities of Sika MonoTop® R-40. All concrete and mortar substrates must be sound, clean and free from oils, grease and surface contaminants. All loose materials and surface laitance must be removed. For large 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 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. Prior to application of Sika MonoTop® R-40, Sika MonoTop®-610 MY should be applied as a bonding bridge. Always work “wet-on-wet” onto the bonding bridge (refer to Sika MonoTop®-610 MY Product Data Sheet).

Steel Reinforcement

Surfaces must be clean from rust products, oil, grease and other loosely adhering particles to provide a rust free surface. Surfaces must be prepared using approved abrasive blast cleaning techniques. 2 coats of Sika MonoTop®-610 MY should be brush applied to the prepared steel (refer to Sika MonoTop®-610 MY Product Data Sheet).

MIXING

Sika MonoTop® R-40 should be mechanically mixed in a clean container using a drill and paddle. A normal tilting drum concrete mixer is not suitable. Place 3.3–3.5 L of water into a clean drum and add Sika MonoTop® R-40 slowly while mixing. A minimum mixing time of 3 minutes is recommended to thoroughly blend the components with a maximum speed of 500 rpm to minimise air entrainment.

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 40 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. Sika MonoTop® R-40 and surrounding areas can be further treated with SikaTop® Seal-107 or Sika MonoTop®-620 MY to provide a water and carbonation resistant finish.

CURING TREATMENT

To achieve the full potential of any cement based material, 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 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 40 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.

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Product Data Sheet

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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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