# Sika MonoTop® R
Polymer modified cementitious hand placed / wet spray repair mortar

## Product Description
Sika MonoTop® R is a one part, thixotropic, polymer modified, cementitious mortar containing silica fume.
Sika MonoTop® R 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
- Chloride free
- Non-corrosive to reinforcing steel
- Non-toxic, suitable for potable water
- Contains fibres to prevent micro cracking
- Non-shrink
- Excellent freeze / thaw resistance
- Good resistance to water immersion

## Product Data

### Form

<table>
<thead>
<tr>
<th>Appearance / Colour</th>
<th>Concrete grey powder</th>
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| Packaging           | 25 kg bags           |

### Storage

| Storage Conditions / Shelf Life | 6 months from the date of production if stored properly in original, unopened and undamaged sealed packaging in dry conditions. Keep away from direct sunlight. |
Technical Data

Density
Freshly mixed mortar ~ 2.0 kg/ltr

Layer Thickness
20 mm max. (vertical application) / 3 mm min.

Water Absorption
< 3% (at 30 mm) (BS 1881: Part 122)

Mechanical / Physical Properties

Compressive Strength
- 1 day > 15.0 N/mm² (+25°C)
- 28 days > 50.0 N/mm² (+25°C)

Bond Strength on Concrete
> 1.5 N/mm² (with bonding bridge)

Modulus of Elasticity
< 20,000 N/mm²

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 Details

Consumption
- ~ 71 bags per m³
- 1 bag yields ~ 14 litres of mortar

Substrate Quality
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.

Steel reinforcements
Steel reinforcement surfaces must be clean from rust, oil, grease or any other loosely adhering particles to provide a rust free surface.

Substrate Preparation / Priming
Concrete
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
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).
## Application Conditions / Limitations

| Application Temperature | +6°C min. / +40°C max. |

## Application Instructions

### 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.

### 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 Method / Tools

- **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, 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.

### Cleaning of Tools

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

### Pot Life

~ 20 minutes (+30°C)

### Notes on Application / 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.

### Curing Details

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.
Value Base

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.

Health and Safety Information

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet (available upon request) containing physical, ecological, toxicological and other safety-related data.

Legal Note

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.