

Product Data Sheet
Version no: 07/07

Sika[®] MonoTop[®] Structural Mortar (NZ)

Fibre reinforced concrete repair mortar

Positioning Description	Sika MonoTop Structural Mortar is a one component, synthetic fibre reinforced, polymer modified cementitious repair mortar that contains reactive microsilica. Sika MonoTop Structural Mortar is part of the MonoTop System for concrete repair and protection.
Uses	Sika MonoTop Structural Mortar is used for repair and reinstatement work to concrete structures and components where high performance and durability properties are required. Typical applications are: <ul style="list-style-type: none"> • Building facades. • Column and beam repair. • Concrete bridges. • Marine structures. • Water retaining structures. • Wastewater treatment plants. • Concrete tunnels and culverts.
Advantages	<ul style="list-style-type: none"> • One component, mix with water only. • Excellent non-sag properties for vertical and overhead applications – can be applied in layers up to 30 mm thick overhead without the use of formwork. • Excellent workability - can be wet sprayed, if required. • Contains non-corroding synthetic fibre reinforcement. • Good mechanical strength. • Microsilica and polymer modified. • Shrinkage compensated. • Improved sulphate resistance. • High resistance to water and chloride ion penetration. • Non toxic, non-corrosive.
Product Data Form / Colour:	Light grey powder / Mid grey when applied.
Storage & Shelf Life:	Six (6) months in unopened original packaging when stored in cool dry conditions below 25°C.
Packaging:	25 kg multi-wall paper bags.
Technical Data	
Density:	Approx. 1.85 kg/litre - wet density of freshly mixed mortar.
Application temp:	Minimum 5°C to maximum 30°C.
Compressive strength:	> 40MPa at 28 days (when mixed with 4.0 litres of water).
Flexural strength:	7 MPa approx. at 28 days.
Bond strength:	To concrete > 3 MPa (concrete failure).
Elastic modulus:	27,000 MPa approx.
Water permeability (ISAT):	0.002 ml/m ² /sec - (satisfies low classification).
Pot life:	50 - 60 minutes at 20°C.
Application thickness/layer:	Minimum 5 mm; Max. unsupported thickness in overhead application 30 mm
Yield:	25 kg = approx. 15.7 litres when mixed with 4.0 litres of water.
Mixing ratio by weight:	1 part water : 6.25 parts powder (approx.)
Application Conditions	
Surface Preparation	<ul style="list-style-type: none"> • Sika MonoTop Structural Mortar should be applied over a bonding slurry of Sika MonoTop Primer. Refer to the Sika MonoTop Primer technical data sheet for information on surface preparation and priming. • All 'feathered' edges around the area to be repaired should be squared off with an angle grinder and chiselled down to a minimum depth of 10 mm.

Construction



Mixing	<ul style="list-style-type: none"> For a hand applied mortar, pour 3.75 – 4.0 litres (maximum) of clean fresh water into a suitable mixing container and slowly add all of the powder while mixing continuously with a Sika Propeller Mixer attached to a slow speed (500 rpm) electric drill. Thoroughly mix until a smooth, lump free consistency is achieved. A minimum mixing time of 3 minutes is recommended. The water content can be reduced slightly to produce a stiffer mortar if desired.
Application	<ul style="list-style-type: none"> While the bonding coat of Sika MonoTop Primer is still 'tacky', pack the mortar well into the cavity or repair. Use a placing rather than a rendering technique to fill all voids and ensure thorough compaction is achieved. Force the Sika MonoTop Structural Mortar against the edge of the repair and progressively work towards the centre. For overhead repairs in excess of 30mm thick and vertical repairs in excess of 40mm thick apply in layers. If more than one layer is required score the first layer and allow to harden. Dampen the surface before applying subsequent layer. If more than 48 hours lapses the first layer will need to be re-primed with Sika MonoTop Primer. Steel trowel the final layer, if required, to achieve a smooth, tight finish.
Cleaning	<ul style="list-style-type: none"> Clean all tools and equipment with water immediately after use. Hardened Sika MonoTop Structural Mortar can only be removed mechanically.
Important Notes	<ul style="list-style-type: none"> Only apply Sika MonoTop Structural Mortar to sound substrates that have been dampened and primed with Sika MonoTop Primer. Sika MonoTop Fairing Coat can be used to provide a very fine fairing/levelling coat over the whole surface, if required, after repair work has been completely undertaken. As with all concrete and mortars, it is essential to protect Sika MonoTop Structural Mortar from water evaporation during the crucial early age curing period, with water spray, wet hessian or polythene sheets. If no further coatings are to be applied to the finished surface, a membrane curing compound may be used. Refer to Antisol data sheet for further information. High quality, long term repairs can only be achieved if they are carried out conscientiously by experienced applicators giving adequate detail to surface preparation, priming of concrete and steel, mixing of repair mortars, application and curing.
Notes	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.
Safety Instructions	
Protective Measures	<ul style="list-style-type: none"> To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work. Local regulations as well as health and safety advice on packaging labels must be observed. If in doubt always follow the directions given on the pack or label.
Important Notes	<ul style="list-style-type: none"> Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities. Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

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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