

Sika MonoTop[®]-107 Seal

Sealing mortar

Construction

Positioning Description	Cementitious, polymer modified, one-component, sealing mortar.
Uses	Can be used with or without reinforcing fabric on concrete, cement mortar, brick-work, for: <ul style="list-style-type: none">• Rigid sealing of water retaining structures• Rigid sealing of external basement walls in new construction• Sealing of existing basement walls against ingress of water• Fabric reinforced protection and sealing coat on balconies, terraces and small concrete roofs, etc.• Protection against the effects of de-icing salt on concrete structures such as:<ul style="list-style-type: none">• Bridge parapets• Bridge supports• Retaining wall crowns• Lining walls• Water tanks• Repair of concrete substrates damaged by de-icing salt
Advantages	<ul style="list-style-type: none">• Easy application• Easy to mix• Consistency adjustable for slurry and trowel applications• Excellent bond to sound substrates• Impervious to water• Waterproof• Excellent frost and de-icing salt resistance• Can be wet spray applied• Non-corrosive to reinforcement steel• Non-toxic
Tests Approvals / Standards	<ul style="list-style-type: none">• Laboratory for Preparation and Methology (Beinwil a. See, Switzerland), Nr.A-20336-1• The Water Quality Centre, Reading, Nr. M 101394 A
Product Data	
Colour:	Grey
Packaging:	25 kg bags. (One pallet contains 40 x 25 kg bags = 1000 kg.)
Storage & Shelf Life:	<ul style="list-style-type: none">• 15 months from date of production when stored in unopened original packaging in dry conditions between 5°C and 25°C.• Only use Sika MonoTop-107 Seal from bags that have been opened that day.
Technical Data	
Density:	2.1 kg/litre (density of fresh mortar at 20°C)
Mechanical strengths: (after 28 days)	Compressive strength 30 – 35 N/mm ² Flexural tensile strength 7 – 10 N/mm ² Adhesive tensile strength on concrete (sandblasted) > 1.5 N/mm ²
E-Modulus (static):	15,000 N/mm ²
Thermal coefficient of expansion:	13 x 10 ⁻⁶ per °C



Water vapour resistance (μ_{H_2O}):	~ 240
Carbon dioxide diffusion resistance (μ_{CO_2}):	~ 2400
Pot life:	30 – 40 minutes (at 23°C)
Mixing ratio:	For slurry application: 4.50 – 4.70 litres of water per 25kg bag For spray application: 4.00 – 4.50 litres of water per 25kg bag For trowel application: 4.00 – 4.25 litres of water per 25kg bag
Material consumption:	On level, smooth substrates, material consumption for 1mm layer thickness is 1.8kg of powder per m ² . (See Important Notes below.)
Application Conditions	
Surface Preparation	<ul style="list-style-type: none"> Concrete, mortar, brickwork: Substrate must be clean, free of loose particles, laitance and oil and as level as possible. Steel, iron: Substrate must be clean, free from oil and grease, rust and scale.
Mixing	<ul style="list-style-type: none"> Pour the correct quantity of mixing water (which is dependant on the method of application – refer to Product Data section) into a suitable mixing vessel. While constantly stirring, slowly add the total quantity of powder. Mix mechanically with electric low speed stirrer (max. 500 rpm) for at least 3 minutes, being careful to avoid entraining air. One or two-armed basket type, forced action or stand type mixers are recommended.
Application	<ul style="list-style-type: none"> Absorbent substrates must be saturated with clean water and then the surface allowed to dry to a matt moist condition. The substrate must be in this 'saturated, surface dry' condition when the first coat Sika MonoTop-107 Seal is applied. The second layer is applied as soon as the first layer has slightly hardened. Brushes are suitable for slurry application. For horizontal areas use rubber squeegees or brooms. Sika MonoTop-107 Seal must be applied in as even layers as possible. Localised material accumulations in corners, honey combs, etc. can lead to crack formation. Such uneven areas must first be reprofiled to level the substrate. <i>Without fabric reinforcement:</i> The first layer of Sika MonoTop-107 Seal is applied with a 3-4mm notched trowel. The second coat is applied with a smooth-edged trowel. <i>With fabric reinforcement:</i> The first layer of Sika MonoTop-107 Seal is applied with a 3-4mm notched trowel (for horizontal areas use a rubber squeegee, bedding comb or broom) at a minimum application rate of 2 kg/m². The fabric reinforcement is immediately worked into the fresh Sika MonoTop-107 Seal, working from top to bottom with a trowel. Material oozing through the fabric mesh should be evenly distributed with a trowel (or with a rubber squeegee on horizontal areas) so that the fabric is anchored properly everywhere. Adjacent pieces of fabric should overlap at least 5 cm. The second layer of Sika MonoTop-107 Seal – at least 2 kg/m² – is applied by notched trowel (for horizontal areas pour and spread evenly), as soon as the first layer has hardened. Level material with smooth edge of trowel and rub down with dry sponge as soon as Sika MonoTop-107 Seal has started to set (on horizontal areas a broomed finish can be provided if required). The flexible sealing mortar Sika MonoTop-107 Seal cures almost shrinkage free in normal weather conditions. If exposed to strong sunshine or wind, the mortar should be kept moist to avoid premature drying out. Standard curing procedures for mortar are recommended.
Overpaintability	Sika MonoTop-Seal 107 can be overcoated with Sikagard-680S or Sikagard-550 W Elastic.
Fabric Reinforcement	Type: Glass mesh fabric Mesh size: 4 x 4 mm Weight: 162 grams/m ²
Cleaning	Clean all tools and equipment with water immediately after use. Hardened material can only be removed mechanically.



Important Notes	<ul style="list-style-type: none"> • Minimum application and substrate temperature +8°C. • Apply a minimum of 2 coats. • Minimum material consumption per layer: <ul style="list-style-type: none"> • As protection against de-icing salt 2.0 kg/m² • To seal against water ingress for water head up to 1m 1.5 kg/m² • To seal against water ingress for water head above 1m 2.0 kg/m² • Never apply more than 4kg/m² in one layer. • Distribute material as evenly as possible • Do not use for cosmetic or other applications on concrete where aesthetic appearance is important. Sika MonoTop-107 Seal is not considered as a decorative treatment. Discolouration and 'blooming' streaks may form after rain or in damp conditions. This does not affect the quality of the coating in any way. To reduce this affect the coating should be kept wet with water for 2 - 3 days after it has fully hardened.
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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.
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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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Health & Safety Information

Protective Measures	<ul style="list-style-type: none"> • Due to its cementitious nature, Sika MonoTop-107 Seal is caustic and can irritate eyes and skin. Avoid contact with foodstuffs and utensils. Wear protective clothing, gloves, goggles etc. In the event of contamination wash thoroughly with water. If the eyes or mouth are affected wash with clean water and obtain medical attention immediately. • Local regulations as well as health and safety advice on packaging labels must be observed. • For further information refer to the Sika Material Safety Data Sheet which is available on request. • If in doubt always follow the directions given on the pack or label.
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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.
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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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Project Reference HAWERA WATER TOWER



Requirement:

Due to high levels of chloride ingress there had been significant corrosion of the tower's reinforcing steel, and the tower had been closed because of danger from falling spalled concrete. The aim of the restoration project was to re-open the tower to the public and to extend the life of the structure by at least 50 years, while having as little effect as possible on the appearance of the tower.

Solution:

Breakout and repair of the damaged sections, with the Sika MonoTop range of hand-applied concrete repair mortars and Sikacrete-Gunite 103 machine applied repair mortar. The tower was then treated with Sika's unique Ferrogard 903 corrosion inhibitor and overcoated with Sika MonoTop-107 Seal, a cement based polymer-modified waterproof coating which protects the concrete against chloride penetration and carbonation.

Products Used:

The Sika MonoTop Repair System
Sikacrete-Gunite 103
Sika Ferrogard 903
Sika MonoTop-107 Seal

Reference: WGL071



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