Construction

SikaTop® Seal-107

Waterproofing, damp-proofing and vapour permeable polymer modified cementitious mortar

Product Description

SikaTop® Seal-107 is a two components, vapour permeable, polymer modified cementitious mortar consists a liquid polymer component and powder component which is cement based with special admixtures.

SikaTop® Seal-107, complies with the requirements of EN 1504-2 as protective coating.

Uses

SikaTop® Seal-107 is used for:

- Interior and exterior waterproofing and damp-proofing of concrete, cementitious rendering, brickwork and blockwork
- Protection of concrete structures against the effects of de-icing salts and freeze-thaw attack
- Rigid vapour permeable waterproofing of basement walls in new construction and refurbishment
- Pore / blowhole filling
- Waterproofing of terraces and balconies, and all the weather exposed surfaces
- Waterproofing basements and cellars, potable water tanks
- Sealing fine cracks in concrete structures (not subject to movement)
- Levelling mortar for concrete repair works

SikaTop® Seal-107 can be used for concrete protection, in particular it is suitable for:

√ Ingress protection (Principle 1, method 1.3 of EN 1504-9)
√ Moisture control (Principle 2, method 2.2 of EN 1504-9)
√ Increasing resistivity (Principle 8, method 8.2 of EN 1504-9)

Characteristics / Advantages

- Easy to apply by brush or in thin trowel applications
- No water required
- Prebatched components
- Hand or spray applied
- Easy and fast mixing
- Very good adhesion
- Protects concrete against carbonation
- Protects against water penetration
- Non-corrosive to steel or iron
- Overpaintable
- Vapour permeable
- Approved for potable water contact

Tests

Approval / Standards	Test Report No. VHM – 495/14 by IMS a.d. Beograd; Serbia Certificate of conformity of the factory control production control 1020 – CPR – 020032279 and product surveillance report No. 020-033634; TZUS Prag; Notified body No. 1020

Product Data

Form

Appearance / Colours	Part A: white liquid Part B: gray or white powder Mixed product: cement gray or off-white
Packaging	25 kg units (20 kg bag and 5 kg pail)

Storage

Storage Conditions / Shelf-Life	12 months from the date of production if stored properly in undamaged and unopened original sealed packaging in dry and cool conditions. Liquid component must be protected from frost.

Technical Data

Chemical Base	Part A: liquid polymer and admixture Part B: Portland cement with selected aggregate and admixtures
Density	Fresh mortar density: ~ 2.00 kg/l
Layer Thickness in One Work Step	0.75 mm min. 2.00 mm max.
Capillary absorption and permeability to water	0.02 kg/($m^2 \cdot h^{0.5}$) (EN 1062-3)
Vapour Permeability (Sd)	0.28 m (for 1.5 mm thickness) (Class I Sd < 5m)
CO_2 permeability (Sd)	68,72 m (for 1.66 mm thickness) (EN 1062-1)
Freeze and thaw cycles	2,2 N/mm^2 (EN 13687-1)

Mechanical / Physical Properties

Compressive Strength (According to EN 196-1)

7 days	~ 15 N/mm^2
28 days	~ 25 N/mm^2

Flexural Strength (According to EN 196-1)

7 days	~ 8 N/mm^2
28 days	~ 9 N/mm^2

Bond Strength (adhesion)	2.0 to 3.0 N/mm^2 (failure in substrate)
E-Modulus	Static: ~ 12 kN/mm^2

System Information

Application Details

Consumption / Dosage	Consumption depends on substrate roughness, surface profile and thickness of the layer applied. As a guide, approx. 2.0 kg/m²/mm (excluding allowances for loss wastage, surface profile and porosity, etc.). 1 unit of 25 kg (A+B) gives approx. 12.5 l of mortar.
Substrate Quality	The substrate must be structurally sound and free of all traces of contaminants, loose and friable particles, cement laitance, oils and grease etc. The concrete tensile adhesive strength (pull off test) must be > 1.0 N/mm^2.
Substrate Preparation	*General*: The substrate must be prepared by suitable mechanical preparation techniques such as high pressure water jetting, needle guns, blastcleaning, scabblers etc. and properly pre-wetted to a saturated surface dry condition. *For pore / blowhole filling:* Blastclean to remove all contaminants including from within the pores / blowholes. *As a levelling mortar:* Prepare and clean all surfaces by suitable mechanical means such as abrasive blast cleaning or equivalent to ensure cement laitance, surface contamination and all existing coatings are removed and all blowholes and honeycombed areas are exposed. The resultant surface must be profiled to achieve maximum bond strength.

Application Conditions / Limitations

Substrate Temperature	+8°C min. / +35°C max.
Ambient Temperature	+8°C min. / +35°C max.

Application Instructions

Mixing	Used as slurry: A : B = 1 : 4 (parts by weight)
Mixing Time	About 3 minutes
Mixing Tools	SikaTop® Seal-107 must be mechanically mixed using a forced action mixer or in a clean drum using a drill and paddle (max. 500 rpm). A normal concrete free fall mixer is NOT suitable.
Application Method / Tools	Shake part A before using it. Pour approximately half of part A into the mixing container and add part B slowly while mixing. Add the remainder of part A and continue mixing until a uniform lump free consistency is achieved. The surface must be pre-wetted to a saturated surface dry condition before application. *Application by brush:* Apply the mixed SikaTop® Seal 107 on the substrate by hand using a stiff brush. First layer is applied in the same direction. Apply the second coat of SikaTop® Seal-107 by brush in the opposite direction to the first application as soon as the first coat has hardened. Subject to actual site conditions concerning hydrostatic pressures, in order to achieve full results of the required and actual watertightness, it can be expected that the procedure will need to be repeated and 3 or more coats applied. *Application by trowel:* Trowel application in two coats enables better control and uniformity in terms of layer thickness, as well as fulfilment of higher esthetical criteria. The first coat of SikaTop® Seal-107 is applied with a notched trowel (e.g. 3x3 mm or 4x4 mm). Apply the second coat of SikaTop® Seal-107 with a flat trowel crosswise as soon as the first coat has hardened. An alkali-proof, exactly trimmed glass fibre mesh can be placed onto the first fresh mortar layer. It is recommended to place the mesh when strong tensile forces (deformations) are expected in the substrate. SikaTop® Seal-107 can also be sprayed with a suitable fine mortar pump. For floor joints and other critical zones (for example, the joint between horizontal and vertical surfaces), the waterproofing layer can be reinforced with Sika® Seal Tape S. The tape is placed on the first layer of mortar while still fresh and then covered by the second layer.

	Ceramic tiles and mosaic tiles can be placed over SikaTop®Seal-107 using a suitable cement tile adhesive (e.g. cement based tile adhesive complying with C2 S1 class as per EN 12004). Tile joints can be filled with appropriate Sika®Ceram tile grout.
Cleaning of Tools	Clean all tools and application equipment with clean water immediately after use. Hardened / cured material can only be removed mechanically.
Potlife	Approx. 40 minutes at +20°C
Waiting Time / Overcoating	*Maximum waiting time between coats* +10°C ~ 12 hours +20°C ~ 6 hours +30°C ~ 3 hours If waiting time period exceeds 24 hours, lightly blastclean the surface. SikaTop® Seal-107 can be overpainted using solvent based primers or coatings. SikaTop® Seal-107 must cure for a minimum of 7 days before overcoating.
Notes on Application / Limitations	SikaTop® Seal-107 is not a decorative treatment and has to be covered with some additional layer e.g. cementitious mortar with Sika® Latex added, ceramic tiles bonded using cementitous tile adhesives etc. Avoid application in direct sun and/or strong wind. Do not add water in any circumstances. Apply only to sound, prepared substrates. Do not exceed maximum layer thickness. Depending on the specific demands of the site, it is allowed to mix material in maximum ratio of components up to A: B = 1: 4.5. For waterproofing or damp proofing application, always use at least 2 coats to give a total thickness of minimum 2.0 mm. In areas of severe water penetration, three or even more coats might be required. It is not recommended to use this product for waterproofing flat roofs or for waterproofing balconies and terraces above the heated rooms. Protect freshly applied material from freezing conditions and rain etc. For waterproofing and damp-proofing works, special attention is required to avoid puncturing the waterproof coating with fixings, nails or any kind of accessories or fixing tools. This can be prevented by using bonding materials such as SikaDur®-31 or SikaFlex® PRO-11 FC etc. It is necessary to check local regulations regarding the approvals to use materials in direct contact with drinking water. It is not recommended to use this product for waterproofing flat roofs or for waterproofing balconies and terraces above the heated rooms.

Curing Details

Curing Treatment	It is essential to cure SikaTop® Seal-107 immediately after application for a minimum of 3 to 5 days to ensure full cement hydration and to minimise cracking. Use polythene sheeting or similar approved methods.

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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.
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.
Health and Safety Information	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.
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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Note	The following chapter is only mandatory for European countries.

CE Labelling

The harmonised European standard EN 1504-2 “Products and systems for the protection and repair of concrete structures – Definitions, requirements, quality control and evaluation of conformity – Part 2 Surface protection system for concrete” specifies the minimim requirements for products and systems for the protection and repair of concrete structures.

Products used as concrete protection fall under this specifications – they need to be CE-labelled as per Annex Za, table Za.1e and fulfil the requirements of the given mandate of the Construction Product Directive (89/106/CE):

CE	
1305	
Sika d.o.o. Patrijarha Pavla 22310 Šimanovci	
02 07 01 01 002 0 000001 1051 EN 1504-2 Surface protection products Protective coating	
Permeability to water vapour:	S_D < 5 m (class I – vapour permeable)
Capillary absorption and permeability to water	ω < 0.1 kg/(m^2·h$^{0.5}$)
CO_2 permeability	S_D > 50 m
Adhesion Strength by pull-off test:	≥ 1.0 (0.7) N/mm²
Freeze-thaw cycling with de-icing salt immersion	≥ 1.0 N/mm²
Reaction to fire after application:	Class F
Dangerous substances comply with 5.3	

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