

Product Data Sheet

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Sika® MonoTop®-621 Evolution



EN 1504-2

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2079

Sika® MonoTop®-621 Evolution

One component repair mortar for rendering

Construction**Product Description**

Sika® MonoTop® 621 Evolution is a ready mix fibre reinforced mortar, based on synthetic polymer modified binders, special additives, synthetic fibres and aggregates of special granulometry, aiming to enhance the properties of the mortar. This formulation leads to an excellent adhesion on heterogeneous substrates, even under the presence of paint residuals of different chemical nature. Sika® MonoTop® 621 Evolution is available in white and grey colour.

Uses

- Concrete surface protection, in accordance with the following EN 1504-9 Principles: 1: protection against penetration (coating); 2: moisture control (coating); 8: increase of resistivity (coating).
- Regularization of concrete surfaces with superficial blemishes
- Surface rendering after application or repair mortars
- Surface rendering on to tiles, mosaics, etc.
- Surface rendering on to old substrates

Characteristics / Advantages

- Excellent workability
- No shrinkage cracks
- Applicable also on substrates not prepared by sandblasting
- Excellent thixotropic behavior
- Good adhesion on to diversified types of substrates: even painted ones, tiles, mosaics and even if applied in high thickness layers
- Thermal expansion coefficient similar to concrete's
- High waterproofing properties
- White and grey color: possibility to choose in terms of aesthetics

Tests**Approvals/ Standards**

1-component, fiber reinforced, cementitious surface protection mortar according to the demands of EN 1504-2, Principles 1,2 and 8 –Methods 1.3, 2.2, 8.2 of EN 1504-9. Conforming to the Annex ZA, Table ZA.1.

DoP 020302040010000038 1022, certified by the Factory Production Control Body, 0546, and provided with the CE Mark.

Product Data**Form**

Appearance /Colours Powder, light grey, white

Packaging 25 kg bags



Storage

Storage Conditions/ Shelf-Life	12 months from date of production if stored in original, unopened and undamaged sealed packaging, in dry and cool conditions.
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Technical Data

Chemical Base	Cement modified with polymers, selected aggregates, microsilica and fibres.
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Density	White: ~ 1,8 – 1,9 kg/l Grey: ~ 1,9 – 2,0 kg/l
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Grading	D_{max} : 0,5 mm
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Mechanical Properties (Sika® MonoTop®-621 Evolution Grey)

Compressive strength (EN 196-1)	1 day	7 days	28 days
	≥6 N/mm ²	≥ 20 N/mm ²	≥ 25 N/mm ²

Requirements as per EN 1504-2 (18% w/p ratio)

	Test Method	Results	Requirements
CO₂ permeability	EN 1062-6	$S_D = 67$	$S_D > 50$
Water –vapour permeability			Class I $S_D < 5$ m (permeable) Class II $5 \text{ m} < S_D < 50$ m Class III $S_D > 50$ m (not permeable)
	EN ISO 7783	$S_D = 0,11$ (Class I)	
Capillary absorption and liquid-water permeability	EN 1062-3	$0,034 \text{ kg /m}^2 \times \sqrt{h}$	$w < 0,1 \text{ kg /m}^2 \times \sqrt{h}$
Freeze-thaw cycling (de-icing salt immersion)	EN 13687-1	$3,16 \text{ N/mm}^2$	≥ 0,8 N/mm ²
Bond strength	EN 1542	$2,75 \text{ N/mm}^2$	≥ 0,8 N/mm ²
Dangerous substances (Chromium VI)	EN 196-10	< 0,0002%	< 0,0002%
Reaction to fire	EN 13501-1	A1	Euroclass

Mechanical Properties (Sika® MonoTop®-621 Evolution White)

Compressive strength (EN 196-1)	1 day	7 days	28 days
	≥8 N/mm ²	≥ 15 N/mm ²	≥ 20 N/mm ²

Requirements as per EN 1504-2 (20% w/p ratio)

	Test Method	Results	Requirements
CO₂ permeability	EN 1062-6	$S_D = 68$	$S_D > 50$
Water –vapour permeability			Class I $S_D < 5$ m (permeable) Class II $5 \text{ m} < S_D < 50$ m Class III $S_D > 50$ m (not permeable)
	EN ISO 7783	$S_D = 0,10$ (Class I)	
Capillary absorption and liquid-water permeability	EN 1062-3	$0,033 \text{ kg /m}^2 \times \sqrt{h}$	$w < 0,1 \text{ kg /m}^2 \times \sqrt{h}$
Freeze-thaw cycling (de-icing salt immersion)	EN 13687-1	$2,40 \text{ N/mm}^2$	≥ 0,8 N/mm ²
Bond strength	EN 1542	$2,98 \text{ N/mm}^2$	≥ 0,8 N/mm ²
Dangerous substances (Chromium VI)	EN 196-10	< 0,0002%	< 0,0002%

Reaction to fire	EN 13501-1	A2	Euroclass
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System Information

Application Details

Consumption	As a guide 2 kg/m ² / mm, dependant on the substrate roughness
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Substrate Quality	<p><i>Concrete:</i></p> <p>The substrate must be structurally sound and free from dust, dirt, loose material, standing water and surface contaminants, such as oil, grease and cement laitance.</p> <p><i>Other substrates:</i></p> <p>The substrate must be mechanically resistant, must have an open texture and must be free from dust, dirt, loose material and surface contamination, such as oil or grease.</p>
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Substrate Preparation / Priming	<p><i>Concrete or mortars:</i></p> <p>The substrate must be prepared by suitable mechanical preparation techniques, such as high pressure water jetting or grit blasting. Non impact/ vibrating cleaning methods are preferred. Damaged, delaminated or weak concrete must be repaired using SikaRep[®] or Sika[®] MonoTop[®] mortars. Pre-wet the surface up to saturation. The wetted surface should achieve a dark matt appearance, without shining: no standing water must be present on the surface.</p> <p><i>Non EN 1504 regulated applications:</i></p> <p>Sika[®] MonoTop[®] -621 Evolution doesn't require special substrate preparations. General investigation to the substrate must be done, in order to remove any loose adhering or poor mechanically adhering particles. Pre-wet the surface up to saturation. The wet surface should achieve a dark matt appearance, without shining: no liquid water must be present on the surface.</p>
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Application Conditions / Limitations

Substrate Temperature	+5°C min. / +35°C max.
Ambient Temperature	+5°C min. / +35°C max.

Application Instructions

Mixing ratio	<p>Grey: ~ 5 lt of water for 25 kg powder</p> <p>White: ~ 4,75 lt of water for 25 kg powder</p>
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Mixing	Sika [®] MonoTop [®] -621 Evolution can be mixed with low speed (~ 500 rpm) electric drill mixer. In small quantities, the mortar can also be mechanically mixed. Pour the water in the correct proportion into a suitable mixing container. While stirring slowly, add the powder to the water. Mix thoroughly at least for 3 minutes, until a homogeneous lump-free consistence is achieved.
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Application Method	<p>Apply Sika[®] MonoTop[®] -621 Evolution by means of a trowel on to the substrate that has been dampened up to saturation, exerting a good pressure on the substrate.</p> <p>The maximum thickness layer is 5 mm.</p> <p>A good surface finishing can be achieved using a sponge-coated, metal or wood floater as soon as the mortar starts to harden.</p>
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Tool maintenance	Removal of fresh remnants from tools and application equipment can be carried out using water immediately after use. Hardened / cured material can only be mechanically removed.
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Pot Life at +20°C	~ 60 min
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Curing	Protect the freshly applied mortar from early dehydration by using the relevant curing methods.
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Notes of application / Limits

- Sika® MonoTop® -621 Evolution assures an excellent adhesion on to the substrates. However, it is preferable to perform an adhesion test on the substrates with old coatings/ plasters or not prepared with the usual methods (grit blasting, etc)
- On old tiles or mosaics, a preliminary adhesion test is strictly recommended
- Do not add cement or other substances that could affect the properties of the mortar
- Do not add water of fresh mortar to a mortar mix that has already started to set
- Avoid application in direct sun and/ or strong wind

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

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 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.



Sika Hellas ABEE
Protomagias 15
145 68 Kryoneri
Athens - Greece

Tel. +30 210 8160600
Fax +30 210 8160606
Email: sika@gr.sika.com
www.sika.gr

