

## PRODUCT DATA SHEET

# Sika MonoTop®-3020

Cementitious, R3 pore filler and levelling mortar containing recycled waste materials

### PRODUCT DESCRIPTION

Sika MonoTop®-3020 is a 1-part, cementitious polymer modified, low shrinkage surfacing/ finishing mortar. It contains recycled waste materials and can reduce the carbon footprint application activity calculations.

### USES

Sika MonoTop®-3020 may only be used by experienced professionals.

- Thin layer render
- Use as a concrete pore filler/ levelling mortar
- Repairing of minor defects (pores and honeycombed concrete)
- Structures requiring a Class R3,R2,R1 mortar
- For interior and exterior use

### CHARACTERISTICS / ADVANTAGES

- Uses recycled waste materials
- Layer thickness 1–5 mm
- Dust reduced
- Application up to 5 mm in 1 layer on vertical and horizontal applications
- High early strengths even at low temperatures
- Good surface finishing
- Low cracking sensitivity
- Sulphate resistant
- Hand and machine application (wet spray technique)
- Very good resistance to water and chloride penetration
- Compatible with Sikagard® overcoat systems
- Ready to mix with water
- Does not contain chlorides or other corrosion promoting additives
- A1 fire rating
- Class R3 of EN 1504-3
- Restoration work (Principle 3, method 3.1 and 3.3 of EN 1504-9)
- Preserving or restoring passivity (principle 7, method 7.1 and 7.2 of EN 1504-9)

### ENVIRONMENTAL INFORMATION

- IBU Environmental Product Declaration (EPD) available

### APPROVALS / STANDARDS

- CE Marking and Declaration of Performance to EN 1504-3 - Concrete repair product for structural repair.

## PRODUCT INFORMATION

Chemical Base	Sulphate resistant cement, selected aggregates, additives and polymers		
Packaging	25 kg bag		
Appearance / Colour	Grey Powder		
Shelf Life	12 months from date of production		
Storage Conditions	Product must be stored in original, unopened and undamaged sealed packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging.		
Maximum Grain Size	D <sub>max</sub> : 0,4 mm		
Soluble Chloride Ion Content	≤ 0,05 %		(EN 1015-17)
Product Declaration	Complies with the general requirements of EN 1504-3: Class R3.		

## TECHNICAL INFORMATION

Compressive Strength	1 day	~8 MPa	(EN 12190)
	7 days	~20 MPa	
	28 days	~40 MPa	
Flexural Strength	28 days	~6 MPa	(EN 12190)
Tensile adhesion strength	≥ 1,5 MPa		(EN 1542)
Thermal Compatibility	≥ 1,5 MPa (Part 1 Freeze-Thaw)		(EN 12687-1)
Coefficient of Thermal Expansion	~10,5 × 10 <sup>-6</sup> 1/K		(EN 1770)
Reaction to Fire	Class A1		(EN 13501-1)
Diffusion Resistance to Water Vapour			
Capillary Absorption	≤ 0,5 kg·m <sup>-2</sup> ·h <sup>-0,5</sup>		(EN 13057)
Permeability to CO <sub>2</sub>	< 2700 μCO <sub>2</sub>		
Carbonation Resistance	dk ≤ control concrete MC (0,45)		(EN 13295)

## SYSTEM INFORMATION

System Structure	<b>Reinforcement Corrosion Protection/ Bonding Primer*</b>	
	Sika MonoTop®-1010	Normal Use
	SikaTop® Armatec® 110 EpoCem®	Demanding requirements
	<b>Concrete Repair Mortar</b>	
	▪ Sika MonoTop®-4012	
	▪ Sika MonoTop®-412N	
	<b>Pore Filler/ Smoothing Coat / Levelling Mortar</b>	
	▪ Sika MonoTop®-3020	
	* Other primers can be used (e.g. Sika MonoTop®-610). Contact your local Sika Company for more information	

## APPLICATION INFORMATION

Mixing Ratio	~4,7 litres of water for 25 kg powder.
Fresh mortar density	~2,0 kg/l

<b>Consumption</b>	~1,7 kg/m <sup>2</sup> /mm Consumption depends on the roughness and absorbency of the substrate. This figure is theoretical and does not allow for any additional material due to surface porosity, surface profile, variations in level or wastage etc.	
<b>Yield</b>	25 kg of powder yields approximately 14,85 litres of mortar	
<b>Layer Thickness</b>	Horizontal	min.1 mm / max. 5 mm
	Vertical	min.1 mm / max. 5 mm
	Overhead	min.1 mm / max. 5 mm
<b>Ambient Air Temperature</b>	+5 °C min. / +35 °C max.	
<b>Substrate Temperature</b>	+5 °C min. / +35 °C max.	
<b>Waiting Time / Overcoating</b>	Minimum 24 hours at +20 °C As a guide, depending on weather conditions overcoat 3 days after application (2 days curing + 1 day drying) with Sikagard® range of protective coatings. For other emulsion paints, refer to the relevant manufacturer's data sheet/ documentation.	

## 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.

## FURTHER DOCUMENTS

- Site Handbook 'Repair of Concrete Structures: Patch Repair and Spray Applications
- Sika Method Statement: Concrete Repair using Sika MonoTop® systems

## LIMITATIONS

- Avoid application in direct sun and/or strong winds.
- Do not add water over recommended dosage.
- Apply only to stable, prepared substrates.
- Do not add additional water during the surface finishing as this can cause discolouration and cracking.
- Protect freshly applied material from freezing.

## ECOLOGY, HEALTH AND SAFETY

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

## APPLICATION INSTRUCTIONS

### EQUIPMENT

#### Substrate preparation

- Mechanical hand held tools
- High / ultra-high pressure water blasting system

#### Steel reinforcement

- Abrasive blast cleaning system
- High pressure water blasting system

#### Mixing

- Small quantities - low speed electric single or double paddle mixer (<500 rpm). Mixing Container.
- Large quantities or machine application - suitable forced action mixer

#### Application

- Hand applied – Plasterers hawk, trowel
- Wet Spray - All in one mixing and spraying machine or separate spraying machine and all associated ancillary equipment to suit application volumes

#### Finishing

- Trowel ( Steel, PVC or wooden), sponge
- Also refer to Site Handbook 'Repair of Concrete Structures – Patch Repair and Spray Applications'

### SUBSTRATE QUALITY / PRE-TREATMENT

#### Concrete

The substrate must be thoroughly clean, free from dust, loose material, surface contamination and material which reduce adhesion or prevent suction or wetting by repair materials. De-laminated, weak, damaged and deteriorated substrate and where necessary sound substrate must be removed by suitable preparation equipment. Ensure sufficient concrete is removed from around corroded reinforcement to allow cleaning, corrosion protection coating (where required) and compaction of the repair material. Repair surface areas must be prepared to provide simple square or rectangular layouts to avoid shrinkage stress concentrations and cracking while the repair material cures. This can also avoid structural stress concentrations from thermal movement and loading during the service life.

## Steel reinforcement

Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion must be removed. Surfaces must be prepared using suitable preparation equipment to Sa 2 (ISO 8501-1).

## MIXING

### Hand applied or Wet Spray Application

Pour the minimum recommended clean water quantity in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly for at least for 3 minutes adding additional water if necessary to the maximum specified amount and adjust to the required consistency to achieve a smooth consistent mix. The consistency must be checked after every mix.

## APPLICATION

### Reinforcement Corrosion Protection Coating

Where a reinforcement coating is required, apply to the whole exposed circumference Sika MonoTop®-1010 or SikaTop® Armatec® 110 EpoCem® (Refer to Product Data Sheet(s)).

### Bonding Primer

On a well prepared and roughened substrate or for a sprayed application, a bonding primer is generally not required. When a bonding primer is required to achieve the required adhesion values, use Sika MonoTop®-1010 or SikaTop® Armatec® 110 EpoCem® (Refer to respective Product Data Sheets). Apply repair mortar onto bonding primer “wet on wet”.

### Levelling Mortar

#### Hand Application

Thoroughly pre-wet the prepared substrate (2 hours recommended) before application. Keep the surface wet and do not allow to dry. Before application remove excess water, e.g. with a clean sponge. The surface must appear a dark matt appearance without shining and surface pores and cavities must not contain water.

When manually applying by hand, first make a scratch coat by firmly scraping the mortar over the substrate surface to form a thin layer and fill any pores or cavities in the surface. Ensure the whole surface to be repaired is covered by the scratch coat. The mortar must be applied onto the wet scratch coat between the minimum and maximum layer thicknesses without the formation of voids.

#### Sprayed Application - Wet Spray

The wet mixed Sika MonoTop®-3020 must be placed into the spraying equipment and applied onto the pre-wetted substrate (pre-wet procedure as hand application) between the minimum and maximum layer thick-

nesses without the formation of voids. 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”.

### Surface finishing

Finishing for all types of application must be carried out to the required surface texture using suitable finishing tools as soon as the mortar has started to stiffen

## CURING TREATMENT

Protect fresh mortar immediately from premature drying using an appropriate curing method, e.g. curing compound, moist geotextile membrane, polythene sheet, etc.

Curing compounds must not be used when they could adversely affect subsequently applied products and systems.

## CLEANING OF TOOLS

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

## 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.

## 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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