BUILDING TRUST

PRODUCT DATA SHEET

Sika MonoTop®-723 Eco

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

DESCRIPTION

Sika MonoTop®-723 Eco is a 1-part, cementitious, polymer modified, ready to mix, low shrinkage surfacing / finishing mortar.
It contains recycled waste materials which leads to a reduced carbon footprint compared to an equivalent performing mortar.

USES

Sika MonoTop®-723 Eco may only be used by experienced professionals.
- Thin layer render
- Concrete pore filler/ levelling mortar
- Repairing 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)
- Structural strengthening (Principle 4, method 4.4. 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 packaging in dry conditions at temperatures between +5 °C and +35 °C. Always refer to packaging.
Maximum Grain Size	D_{max}: 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 (EN 12190)

Time	Compressive strength
1 day	~8 MPa
7 days	~20 MPa
28 days	~40 MPa

Modulus of Elasticity in Compression	≥ 15 GPa	(EN 13412)
Tensile Strength in Flexure	~6 MPa (28 days)	(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^{-6} 1/K	(EN 1770)
Reaction to Fire	Class A1	(EN 13501-1)
Diffusion Resistance to Water Vapour	μH_2O < 120	
Capillary Absorption	≤ 0,5 kg·m^{-2}·$h^{-0,5}$	(EN 13057)
Permeability to Carbon Dioxide	μCO_2 < 2700	
Carbonation Resistance	dk ≤ control concrete MC (0,45)	(EN 13295)

SYSTEM INFORMATION

System Structure

Reinforcement Corrosion Protection / Bonding Primer*

Sika MonoTop®-910 Eco	Normal Use
SikaTop® Armatec® 110 EpoCem®	Demanding requirements

Concrete Repair Mortar
- Sika MonoTop®-412 NFG

Pore Filler/ Smoothing Coat / Levelling Mortar
- Sika MonoTop®-723 Eco

APPLICATION INFORMATION

Mixing Ratio	~4,7 litres of water for 25 kg bag
Fresh mortar density	~2,0 kg/l
Consumption	~1,7 kg/m²/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.	
Yield	25 kg of powder yields ~14,85 litres of mortar	
Layer Thickness	Horizontal	min.1 mm / max. 5 mm
	Vertical	min.1 mm / max. 5 mm
	Overhead	min.1 mm / max. 5 mm
Ambient Air Temperature	+5 °C min. / +35 °C max.	
Substrate Temperature	+5 °C min. / +35 °C max.	
Waiting Time / Overcoating	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 a product from the Sikagard® range of protective coatings. For other emulsion paints, refer to the relevant manufacturer's product data sheet/ documentation.	

BASIS OF PRODUCT DATA

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

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

EQUIPMENT

Substrate preparation
- Mechanical hand held tools
- High / ultra-high pressure water blasting equipment

Steel reinforcement
- Abrasive blast cleaning equipment
- High pressure water blasting equipment

Mixing
- Small quantities - low speed (< 500 rpm) electric hand drill mixer. 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

Strictly follow installation procedures as defined in method statements, application manuals and working instructions which must always be adjusted to the actual site conditions.
Reinforcement Corrosion Protection Coating
Where a reinforcement coating is required, apply to the whole exposed circumference Sika MonoTop®-910 Eco or SikaTop® Armatec® 110 EpoCem® (Refer to respective Product Data Sheets).
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®-910 Eco 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®-723 Eco 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 thicknesses without the formation of voids. Where layers are to be built up, to prevent sagging or slumping, each layer must 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 harden.

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. It may be necessary to adapt the above disclaimer to specific local laws and regulations. Any changes to this disclaimer may only be implemented with permission of Sika® Corporate Legal in Baar.

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