BUILDING TRUST

PRODUCT DATA SHEET

Sika MonoTop®-615

R3 Classification, One-Component, Cementitious, High Build Concrete Repair and Reprofiling Low Density Mortar

PRODUCT DESCRIPTION

Sika® MonoTop®-615 is a one-component, cement based, polymer modified, high build repair and reprofiling mortar, meeting the requirements of Class R3 of EN 1504-3.

USES

- For repairing all types of structures.
- Particularly suited to overhead and vertical repairs.
- Hand applied repairs.
- Repairs requiring mechanical (spray) application.
- For exterior and interior use.
- For all Class R1, R2 and R3 repairs.

CHARACTERISTICS / ADVANTAGES

- Pre-bagged for consistency and quality.
- Easy to use.
- Just add water.
- Contains waste materials for improved sustainability.
- Low density for ease of use, particularly vertically and overhead.
- Sprayable by the wet spray method.
- Contains no chloride admixtures.
- High build.
- Low wastage.
- EuroClass A1 reaction to fire rating.
- Excellent adhesion to substrates.
- Especially suitable for substrates with low strength and for lightweight concrete.
- Low-shrinkage curing.
- Good mechanical strength.
- High frost and de-icing salt resistance.
- Drinking Water Certified.

APPROVALS / STANDARDS

- Conforms to the requirements of EN 1504-3 R3 Classification.
- Drinking Water Certificate: Water Regulations Advisory Scheme Ltd (WRAS) Approval Number: 2305561.

PRODUCT INFORMATION

Chemical Base	Portland cement, polymer redispersable powder, selected aggregates and additives
Packaging	25 kg bag
Shelf Life	9 months when stored covered, dry and in unopened original packaging
Storage Conditions	Store properly in original unopened, sealed and undamaged packaging in dry and cool conditions
Appearance / Colour	Grey powder
Maximum Grain Size	D_{max}: 1.5 mm

Density	Fresh mortar density: ~1.65 kg/l Hard mortar density after 28 days: ~1.89 kg/l	
Soluble Chloride Ion Content	**Result**: < 0.009% **Requirement**: ≤ 0.05%	(EN 1015-17)

TECHNICAL INFORMATION

Compressive Strength	**Class R3** 1-day ~12 N/mm² * = At 28 days.	**Requirement:** 7-day ~30 N/mm² **≥25 N/mm²*** 28-day ~35 N/mm²	(EN 12190)
Modulus of Elasticity in Compression	~16 kN/mm²		(EN 13412)
Flexural Strength	28 days ~ 7.0 N/mm²		(EN 12190)
Tensile adhesion strength	≥2 N/mm²		(EN 1542)
Restrained Shrinkage / Expansion	~2.5 N/mm²		(EN 12617-4)
Capillary Absorption	~0.11 kg x m^{-2} x $h^{-0.5}$		(EN 13057)
Carbonation Resistance	dk ≤ control concrete (MC (0.45))		(EN 13295)
Reaction to Fire	EuroClass A1		(EN 1504-3 cl 5.5)

SYSTEM INFORMATION

System Structure

Sika® MonoTop®-615 is part of the range of Sika® mortars complying with the relevant part of European Standard EN 1504 and comprising of:

Bonding Primer:
Sika® MonoTop®-1010

Reinforcement Corrosion Protection:
Sika® MonoTop®-1010 for carbonated concrete
SikaTop® Armatec®-110 EpoCem® for chloride contaminated concrete

Repair Mortar:
Sika® MonoTop®-615

Smoothing Coat / Levelling Mortar / Pore Filler:
Sika® MonoTop®-3020
Sikagard®-545 W Elastofill
Sikagard®-720 EpoCem® for demanding requirements

Anti-Carbonation Concrete Protective Coating:
All Sikagard® Anti-Carbonation protective coatings

Ancillary Products for Corrosion Management:
Sika® FerroGard®-903+ Liquid Corrosion Inhibitor
Sika® Margel VPI 580 Capsule Corrosion Inhibitor
Sika® Galvashield® Galvanic Anodes
Sika® Ebonex® Cathodic Protection Anodes

APPLICATION INFORMATION

Consumption	This depends on the substrate roughness and thickness of layer applied. As a guide, ~1.65 kg/m²/mm.
Layer Thickness	3.0 mm minimum / 50 mm maximum (~30 mm overhead)
Ambient Air Temperature	+5°C minimum / +30°C maximum
Mixing Ratio	Hand Application: ~2.5 to 2.7 L of water for 25 kg powder Wet Spray application: ~2.5 to 3.5 L of water for 25 kg powder
Substrate Temperature	+5°C minimum / +30°C maximum
Pot Life	~30 minutes (at +23°C)

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.

LIMITATIONS

- Refer to the recommendations provided in EN 1504-10.
- Avoid application in direct sun and / or strong wind.
- Do not add water over recommended dosage.
- Apply only to sound, prepared substrate.
- Do not add additional water during the surface finishing as this will cause discolouration and / or 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

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:
The concrete shall be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials. Delaminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable mechanical or very high pressure waterblasting techniques.
Tying wire fragments, nails and other metal debris embedded in the concrete should be removed wherever possible.
The edges where concrete is removed should be cut at a minimum angle of 90º to avoid undercutting and a maximum angle of 135º to reduce the possibility of debonding with the top surface of the adjacent sound concrete and should be roughened sufficiently to provide a mechanical key between the original material and Sika® Repair material.
Ensure sufficient concrete is removed from around the full circumference of the reinforcement to allow application of the reinforcement corrosion protection coating (if required) and compaction of the repair material.
Steel Reinforcement:
Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed. Surfaces shall be prepared using abrasive blast cleaning or high pressure waterblasting techniques to a minimum standard of SA 2 (ISO 8501-1). If these types of techniques are not permissble, contact Sika® Technical Services for alternative options using hand preparation techniques and Galvanic Anodes.
Where exposed reinforcement is contaminated with chloride or other material which may cause corrosion, the reinforcement shall be cleaned by low pressure waterblasting before application of reinforcement corrosion protective coating.
Reference shall be made to EN 1504-10 for specific requirements.

MIXING

Sika® MonoTop®-615 can be mixed with a low speed (< 500 rpm) hand drill mixer, or for machine application, using a force action mixer with 2 to 3 bags (or more) at once, depending the type and size of mixer. In small quantities, Sika® MonoTop®-615 can also be manually mixed. Pour the recommended water in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes adding additional water during the mixing time if necessary to the maximum specified amount and adjust to the required consistency.

APPLICATION

Reinforcement Corrosion Protection Coating:
Where a reinforcement coating is required, the application of a repair mortar shall be applied wet on dry onto the reinforcement corrosion protection. Refer to the System Information above for compatible Sika® Products and refer to the relevant Product Data Sheet(s) for more detailed information about the reinforcement corrosion Product.
Bonding Primer:
On a well prepared and roughened substrate, a bonding primer is generally not required for this Product. When a bonding primer is required, refer to the System Structure above for compatible Sika® Products and refer to the relevant Product Data Sheet(s) for instructions. A small amount of Sika® MonoTop®-615 can also be mixed slightly wetter than normal and used as a scratch coat to fill any deep cavities or pits in the base of the substrate. Any bonding primer shall be applied on a pre-wet substrate and subsequent application of the scratch coat / repair mortar shall be applied 'wet-on-wet' onto the bonding primer.
Repair Mortar Application:
Sika® MonoTop®-615 can be applied either manually using traditional techniques, or mechanically using wet spray equipment. Thoroughly pre-wet the prepared substrate a recommended 2 hours 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 shall have a dark matt appearance without glistening, and surface pores and pits shall not contain water. When manually applying, first make a scratch coat by firmly scraping the repair mortar over the base of the substrate surface to form a thin layer and fill any deep cavities. Ensure the whole surface to be repaired is covered by the scratch coat. For vertical applications, build up layers from bottom to top by pressing mortar well into the repair area. The surface can be finished according to the surface texture requirements using a float. Do not overtrowel as this may lead to surface cracking.

CURING TREATMENT

Protect the fresh mortar immediately from premature drying for a minimum of 3 days using an appropriate curing method (e.g. curing compound, moist geotextile membrane, polythene sheet, etc.).
Curing compounds shall not be used when they adversely affect subsequently applied Products and Systems.
Reference shall also be made to EN 1504-10 for specific requirements.

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 declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product 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.

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