

# PRODUCT DATA SHEET

## Sika MonoTop®-615

### R3 CEMENTITIOUS HIGH BUILD CONCRETE REPAIR 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 BS EN1504-3

#### USES

- For repairing all types of structures
- Overhead and vertical repairs
- Hand applied repairs
- Spray applied repairs
- For exterior and interior use
- In place of R1& R2 mortars

#### CHARACTERISTICS / ADVANTAGES

- Pre-bagged for quality
- Just add water
- Sprayable by the wet spray method
- Contains no chloride admixtures
- High build
- Low wastage

#### APPROVALS / STANDARDS

Conforms to the requirements of BS EN 1504-3 R3 Classification

#### PRODUCT INFORMATION

<b>Chemical Base</b>	Portland cement, polymer redispersable powder, selected aggregates and additives.		
<b>Packaging</b>	25 kg bag		
<b>Appearance / Colour</b>	Grey powder		
<b>Shelf Life</b>	9 months		
<b>Storage Conditions</b>	Store properly in undamaged original sealed packaging, in dry cool conditions.		
<b>Density</b>	Fresh mortar density ~ 1.65 kg/l		
<b>Maximum Grain Size</b>	Dmax: 1.5 mm		
<b>Soluble Chloride Ion Content</b>	<u>Result</u>	<u>Requirement</u>	(EN 1015-17)
	< 0.009%	≤ 0.05%	

#### TECHNICAL INFORMATION

<b>Compressive Strength</b>	<u>Class R3</u>	<u>Requirement</u>	>25 N/mm <sup>2</sup>	(EN 12190)
	<u>1 day</u>	<u>7 days</u>	<u>28 days</u>	
	~11.5 N/mm <sup>2</sup>	~30 N/mm <sup>2</sup>	~35 N/mm <sup>2</sup>	

<b>Modulus of Elasticity in Compression</b>	Result ~ 16.0 kN/mm <sup>2</sup>	Requirement > 15 kN/mm <sup>2</sup>	(EN 13412)
<b>Flexural Strength</b>	28 days ~ 7.0 N/mm <sup>2</sup>		(EN 12190)
<b>Tensile Adhesion Strength</b>	Result ~ 2.0 N/mm <sup>2</sup>	Requirement ≥ 1.5 N/mm <sup>2</sup>	(EN 1542)
<b>Restrained Shrinkage / Expansion</b>	Result ~ 2.5 N/mm <sup>2</sup>	Requirement ≥ 1.5 N/mm <sup>2</sup>	(EN 12617-4)
<b>Reaction to Fire</b>	Euro class A1		(EN 1504-3 cl 5.5)
<b>Capillary Absorption</b>	Result 0.11 kg.m <sup>-2</sup> .h <sup>-0.5</sup>	Requirement ≤ 0.5 kg.m <sup>-2</sup> .h <sup>-0.5</sup>	(EN 13057)
<b>Carbonation Resistance</b>	Not required if coated		

## SYSTEM INFORMATION

<b>System Structure</b>	Sika MonoTop®-615 is part of the range of Sika® mortars complying with the relevant part of European Standard EN 1504 and comprising of:  <b>Bonding Primer:</b> Sika MonoTop®-610 <b>Reinforcement Corrosion Protection:</b> Sika MonoTop®-610 for carbonated concrete SikaTop® Armatec® 110 EpoCem® for chloride contaminated concrete <b>Repair Mortar:</b> Sika MonoTop®-615 <b>Smoothing Coat / Levelling Mortar / Pore Filler:</b> Sika MonoTop®-620 <b>Anti-Carbonation Concrete Protective Coating:</b> All Sikagard® Anti- Carbonation protective coatings <b>Ancillary Products</b> <b>Corrosion Management:</b> Sika® FerroGard®-903+ Liquid Corrosion Inhibitor Sika® Margel VPI 580 Capsule Corrosion Inhibitor Sika® Galvashield® Galvanic Anodes Sika® Ebonex® Cathodic Protection Anodes		
<b>Mixing Ratio</b>	Wet Spray Application : ~ 2.5 to 3.5 L of water for 25kg powder Hand Application: ~ 2.5 to 2.7 L of water for 25 kg powder		
<b>Consumption</b>	This depends on the substrate roughness and thickness of layer applied. As a guide, ~ 1.65 kg/m <sup>2</sup> /mm.		
<b>Layer Thickness</b>	3 mm min / 50 mm max ( 30 mm overhead)		
<b>Ambient Air Temperature</b>	+5°C min. / +30°C max.		
<b>Substrate Temperature</b>	+5°C min. / +30°C max.		
<b>Pot Life</b>	~ 30-50 minutes (at +23°C)		

### 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. De-laminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable mechanical or very high pressure water blasting techniques. Tying wire fragments, nails and other metal debris embedded in the concrete should be removed where possible. The

edges where concrete is removed should be cut at a minimum angle of 90° to avoid undercutting and a maximum angle of 135° 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 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 water-blasting techniques to a minimum standard of SA 2 (ISO 8501-1)

If these types of techniques are not permissible contact Sika® Ltd 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 EN1504-10 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 2 to 3 bags or more at once depending the type and size of mixer.

For small quantities, Sika MonoTop®-615 can also be manually mixed

Pour the minimum 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 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

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 Information above for compatible Sika products and refer to the relevant Product Data Sheet for instructions.

A small amount of Sika MonoTop®-612 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 appear 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 over-trowel as this may lead to surface cracking.

#### **Finishing:**

Finishing should be carried out to the required surface texture as soon as mortar has started to stiffen.

### **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 could adversely affect subsequently applied products and systems.

Reference shall also be made to BS EN1504-10 for specific requirements.

### **CLEANING OF TOOLS**

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

### **LIMITATIONS**

- Refer to recommendations provided in BS EN 1504-10.
- Avoid application in direct sun and/or strong wind and/or rain.
- Do not add water over recommended dosage.
- Apply only to sound, prepared substrates.
- Do not add additional water during the surface finishing as this will cause discoloration and cracking.
- Protect freshly applied material from freezing.

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

## 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.

## 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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Product Data Sheet  
Sika MonoTop®-615  
December 2017, Version 01.01  
020302040030000198

SikaMonoTop-615-en-GB-(12-2017)-1-1.pdf

