

PRODUCT DATA SHEET

Sika® Rapid Repair Mortar

R4 FAST SETTING CEMENTITIOUS REPAIR MORTAR

PRODUCT DESCRIPTION

Sika® Rapid Repair Mortar is a one component fast setting cementitious repair mortar, meeting the requirements of Class R4 of BS EN 1504-3

USES

- For repairing all types of structures
- Horizontal and vertical repairs
- Hand applied repairs
- Floor slabs and car park decks
- For exterior and interior use
- In place of R1, R2 & R3 mortars

CHARACTERISTICS / ADVANTAGES

- Pre-bagged for quality
- Just add water
- High early strength
- Rapid setting
- Contains no chloride admixtures
- Non corrosive to steel
- Can be overcoated

APPROVALS / STANDARDS

Conforms to the requirements of BS EN 1504-3 R4 Classification

PRODUCT INFORMATION

Chemical Base	Portland cement, selected aggregates and additives.	
Packaging	25 kg bag	
Appearance / Colour	Grey powder	
Shelf Life	6 months	
Storage Conditions	Store in original unopened, sealed and undamaged packaging in dry and cool conditions	
Density	Fresh mortar density: ~ 2.10 kg/l	
Soluble Chloride Ion Content	< 0.007%	
Compressive Strength	1 day ~ 50 MPa 7 days ~ 60 MPa 28 days ~ 70 MPa	(EN12190)
Modulus of Elasticity in Compression	~30 GPa	(EN13412)
Tensile Adhesion Strength	~2.5 MPa	(EN12190)
Restrained Shrinkage / Expansion	~2.5 MPa	(EN 12617-4)
Reaction to Fire	Euro class A1	(EN 1504-3 cl 5.5)

SYSTEM INFORMATION

System Structure

Sika® Rapid Repair Mortar is part of the range of Sika mortars complying with the relevant part of European Standard EN 1504 and comprising of:

Bonding Primer / Reinforcement

Corrosion Protection

Sika MonoTop®-610	Carbonation
SikaTop® Armatec® 110 EpoCem®	Chlorides

Repair Mortars

All Sika® MonoTop®, Sika® Rapid Repair Mortar and SikaCem® Gunite series

Smoothing Coat / Pore Filler

Sika MonoTop®-620	Normal use
Sikagard®-720 EpoCem®	Demanding requirements

Corrosion Inhibitor

Sika® FerroGard®-903+

Anti-Carbonation Protective Coatings

All Sikagard® Anti- Carbonation protective coatings

APPLICATION INFORMATION

Mixing Ratio	~ 2.5 to 3.0 L of water for 25 kg powder
Consumption	This depends on the substrate roughness and thickness of layer applied. As a guide, ~ 2.10 kg/m ² /mm.
Layer Thickness	8.0 mm min. / 30 mm max.
Ambient Air Temperature	+5°C min. / +25°C max.
Substrate Temperature	+5°C min. / +25°C max.
Pot Life	~ 15-20 minutes (at +20°C)

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. De-laminated, 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 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 (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 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® Rapid Repair Mortar can be mixed with a low speed (< 500 rpm) hand drill mixer. In small quantities, Sika® Rapid Repair Mortar 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 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® Rapid Repair Mortar 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® Rapid Repair Mortar can be applied manually using traditional techniques. 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 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.

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 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.
- Large/deep repairs may be subject to shrinkage and cracking. This may be minimised by limiting repair volumes and reducing layer thicknesses.
- 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 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.

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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