TECHNICAL DATA SHEET

KEIM CONCRETAL®-MÖRTEL-R

1. PRODUCT DESCRIPTION

Fibre-reinforced repair mortar for the KEIM Concretal concrete repair system to ZTV-ING TL/TP BE PCC I - II, to Building Rules List A, part 2 and to EN 1504-3 class R4.

2. FIELD OF APPLICATION

Concrete substitute for concrete repair in civil engineering and bridge building to ZTV-ING and in building construction according to DAfStb guidelines for restoring concrete components in zones exposed to dynamic loads and of static relevance. KEIM Concretal-Mörtel-R can be applied in layer thicknesses of 5 mm to 50 mm in multiple layers as required. (To ZTV-ING, minimum layer thickness 10 mm).
Sprayable by wet spraying.

3. PRODUCT PROPERTIES

Single-component, polymer-modified, cement-bound mortar, mixing liquid water.
Low-shrinkage and crack-free hardening even when exposed to dynamic loads during application and setting period, frost resistant, resistant to de-icing salt, water-impermeable, water vapour permeable, elevated carbonation resistance.
Non-flammable to DIN 4102-1, building material class A1.

4. APPLICATION INSTRUCTIONS

Substrate preparation:
The substrate must be clean, solid and free of any substances having a release action, such as dust, oil etc.
For full cover application (by spraying), the substrates must be roughened beforehand by blasting. Dirt, laitance and unsound layers must be completely removed.
The necessary minimum tensile bond strength on mineral substrates should comply with relevant technical regulations (DAfStb guidelines for the protection and renovation of concrete components; ZTV-ING).

Mixing:
Add KEIM Concretal-Mörtel-R to an initial amount of water and mix until homogeneous with a compulsory mixer or slow-running stirrer for approx. 5 minutes. Mixing by hand is not permissible.

Mixing ratio:
100 pbw Concretal-Mörtel-R
15 - 16 pbw water

3.75 - 4.00 l of water* are required for 25 kg of KEIM Concretal-Mörtel-R.

*Water is added depending on the desired consistency and temperature conditions (low temperature = low water requirement; high temperature = higher water requirement).

Manual application:
Depending on absorbency, prewet substrate before applying KEIM Concretal MKH, avoiding standing water. Work KEIM Concretal-MKH into the only matt moist substrate by vigorous brushing.
Apply the mixed KEIM Concretal-Mörtel-R with a float fresh-on-fresh onto the substrate pretreated with KEIM Concretal-MKH. Layer thickness 5 mm to 50 mm. Thickness per application max. 25 mm. The possible thickness per application depends on the size and nature of the defective area and its location (floor, wall, ceiling). If several layers are required, subsequent layers may be applied onto the stably set, but still moist first layer. Mortar which has already dried must be prewetted again and pretreated with KEIM Concretal-MKH. Fresh KEIM Concretal-MKH must always be used to prepare the edges of existing concrete.

Spray application:
The preparation and application conditions stated for normal mortar apply to spray application. KEIM Concretal-MKH need not be applied.
When corrosion protection is used, three coats of KEIM Concretal-MKH must be applied. Conventional wet-flow spraying systems for mortar with a max. grain size of 4 mm, specifically variable-delivery screw pumps, are suitable for spray application of KEIM Concretal-Mörtel-R. A necessary nozzle clearance of 60-80 cm, with a corresponding working space, must be allowed when planning scaffolding depth. Once it has initially set, KEIM Concretal-Mörtel-R can be levelled and smoothed; after the onset of hardening, there is a risk of structural changes.

Post-treatment:
KEIM Concretal-Mörtel-R should be protected from sun or wind to prevent it from drying out too rapidly, for example by direct covering (masking with film) or keeping moist by laying mats and spraying with water. An after-treatment time of at least 5 days must be observed.

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Application data/Technical data:

Grain size:	0 to 2 mm
Fresh mortar bulk density:	2.06 kg/dm³
Compressive strength 28d:	55 N/mm²
Bending tensile strength 28d:	8.5 N/mm²
Dynamic modulus of elasticity:	32 500 N/mm²
Shrinkage 28d:	0.78 mm/m
Carbonation depth:	0 mm/90 days
Working time:	at + 5°C approx. 60 min. at + 20°C approx. 45 min at + 30°C approx. 30 min.
Application temperature (air and substrate):	from +5°C to 30°C
Consumption rate:	approx. 1.80 kg/m² and mm dry bagged mortar

Layer thicknesses:
5 mm min. layer thickness
25 mm max. layer thickness per application
50 mm max. overall layer thickness
100 mm localised application

5. PACKAGING

25 kg sack

6. STORAGE

Storage life 12 months in unopened original packaging under dry, frost-free conditions.

7. DISPOSAL

EC Waste Code No. 17 01 01
Any residues must be emptied out of containers before recycling.

8. SAFETY INSTRUCTIONS

Giscode: ZP 1

Provide appropriate protection for surfaces which are not to be coated (e.g. glass, natural stone, ceramics etc.). Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water. Protect the eyes and skin from splashes. Keep out of reach of children.
Low chromate content to TRGS 613.
Please refer to EC Safety Data Sheet.

The stated values and properties are the result of extensive development work and practical experience. Our recommendations for application, whether given verbally or in writing, are intended to provide assistance in the selection of our products and do not establish a contractual relationship. In particular, they do not release those purchasing and applying our products from the duty of establishing for themselves, with due care, the suitability of our products for the intended application. Standard building industry practices must be complied with. We retain the right to make modifications to improve the products or their application. This edition supersedes all earlier editions.

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