TECHNICAL DATA SHEET

KEIM CONCRETAL-MR 2.0

1. PRODUCT DESCPRIPTION

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

2. FIELD OF APPLICATION

Concrete replacement for concrete repair in civil engineering and bridge construction in accordance with ZTV-ING and in building construction in accordance with DAfStb guidelines for the repair of concrete components in dynamically stressed and statically relevant areas.
KEIM Concretal-MR 2.0 Can be applied in layer thicknesses of 5 mm to 50 mm in several layers depending on requirements. (According to ZTV-ING minimum layer thickness 10 mm). Can be applied by wet spraying.

3. PRODUCT PROPERTIES

- one-component
- low-shrink
- crack-free haredening
- watertight
- highly water vapour permable
- frost-resistant and salt-resistant
- high carbonation resistance
- fire behaviour: non-flammable (Class A1 according to DIN 4102-1)
- synthetic-modified

MATERIAL CHARACTERISTICS:

– Fresh mortar bulk density:	approx. 2,06 kg/dm³
– Mixing time:	5 min.
– Carbonation depth:	0,0 mm/90 days
– Dynamic e-module:	> 32500 N/mm²
– Shrinkage (28d):	approx. 0,78 mm/m

CLASSIFICATION:

– Compressive strength (28d):	> 55 N/mm²
– Flexural strength (28d):	> 8,5 N/mm²

COLOUR SHADES:
grey

4. APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION:
The substrate must be sound, clean and free from all loose particles, dust, oil and other substances with a separating effect. Organically bound existing coatings must be completely removed.
For full-surface application (spraying method), the substrates must be roughened beforehand using the blasting method. Dirt, cement slurries and non-stable layers must be completely removed. The required minimum adhesive tensile strength for

mineral substrates should comply with the relevant technical regulations (DAfStb; ZTV-ING guideline for protection and repair of concrete components).

APPLICATION CONDITIONS:
Ambient and substrate temperature during application and drying from ≥ 5 °C to ≤ 30 °C. Do not apply in direct sunlight or on sun-heated substrates. Protect surfaces from direct sun, wind and rain during and after application.

PREPARATION OF MATERIAL / MIXING & CONVEYING:
Mix KEIM Concretal-MR 2.0 homogeneously for approx. 5 min. with approx. 3.8 - 4.0 l clean water per bag using a compulsory mixer or slow-running stirrer. Mixing by hand is not permitted. Addition of water depending on temperature conditions:
low temperature = low water requirement
high temperature = higher water requirement

CONSUMPTION:
approx. 1,8 kg/m² per mm
These material consumption values are guide values for smooth substrates. Exact consumption values must be determined by means of test areas.

APPLICATION:
Manual processing:
Before applying KEIM Concretal-MKH, pre-wet the substrate according to its absorbency, avoid standing water. Slurry KEIM Concretal-MKH into the matt damp substrate by intensive brushing. Apply the mixed KEIM Concretal-MR 2.0 fresh-in-fresh to the substrate prepared with KEIM Concretal-MKH using a trowel. Layer thickness 5 mm to 50 mm(In case of partial application up to 100 mm total layer thickness). Application thickness per working operation max. 25 mm. The possible application thickness per working operation depends on the size and type of defect as well as on the position (floor, wall, ceiling). When working with several layers, work can be continued on the first layer, which is still damp after it has set firmly. Already dried mortar must be pre-wetted again and pre-treated with KEIM Concretal-MKH. On old concrete edge areas, the work must always be carried out with fresh KEIM Concretal-MKH.

Spray application:
For application by spraying, the preparation and processing conditions for normal mortar apply. The application of KEIM Concretal-MKH is not required. When applying corrosion protection, KEIM Concretal-MKH must be applied three times. The usual wet-flow spraying systems for mortar with a maximum grain size of 4 mm, especially screw pumps with variably adjustable delivery rates, are suitable for processing KEIM Concretal-MR 2.0 by spraying. The required nozzle spacing of 60 – 80 cm with corresponding working space must be taken into account when planning the scaffold width. KEIM Concretal-MR 2.0 can be stripped and smoothed after tightening, there is a risk of structural disturbances after hardening has started.

LAYERING SYSTEM:
per work step: 5 mm min. layer thickness up to 25 mm max. layer thickness
Total layer thickness: max. 50 mm, partial application: 100 mm

AFTERTREATMENT:
KEIM Concretal-MR 2.0 must be protected from drying out too quickly due to sun or wind, e.g. by covering directly (masking with foil) or keeping moist by laying mats and spraying with water. An after-treatment period of at least 5 days must be observed.

WORKING TIMES

Temperature conditions	Processing times under different temperature conditions	Time units
at + 5°C	60	minutes
at + 20°C	45	minutes
at + 30°C	30	minutes

CLEANING OF TOOLS:
Clean immediately with water.

5. PACKAGING

Container content	Unit of measure	Quantity on pallet	Type of container
25	kg	40	bag

6. STORAGE

max. storage time	Storage conditions
12 months	dry frost-free

7. DISPOSAL

For disposal information refer to section 13 of the safety data sheet.

Waste code: 17 01 01

8. SAFETY INSTRUCTIONS

Please, refer to the Material Safety Data Sheet.

9. GENERAL INFORMATION

Cover surfaces not to be treated, especially glass, ceramics and natural stone. Any splashes on surrounding surfaces or traffic areas must be rinsed off immediately with plenty of water.
Mixing with products not part of the system or other foreign additives is not permitted.

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