

KEIM Concretal®-MKH (Mineral corrosion protection and bonding bridge for concrete)



1. Product description

Mineral corrosion protection and bonding bridge for the KEIM Concretal concrete repair system to ZTV-ING TL/TP BE PCC I - II and DAfStb guidelines.

2. Field of application

Application as corrosion protection

Corrosion protection on clean steel reinforcement which, after blasting, exhibits degree of cleanliness SA 2½ to DIN EN 12944-4.

Application as bonding bridge

For a non-interlocking bond between cement-bound substrates and KEIM Concretal-Mörtel-R in concrete repair in civil engineering and bridge construction to ZTV-ING for applications PCC I and II, and in building construction to DAfStb guidelines.

3. Product properties

Single-component, polymer-modified, cement-bound, mixing liquid water.

Active corrosion protection for steel reinforcement and protection against chlorides in the context of concrete repair. Bonding bridge for manually applied coarse mortar with elevated bond strength.

4. Application instructions

Application methods

As corrosion protection using a paintbrush, as bonding bridge using a brush.

Substrate preparation Steel reinforcement

The steel reinforcement must be prepared to standard degree of cleanliness SA 2½ to DIN EN ISO 12944-4. It must have no rust film and be free

of other substances with a release or corrosion-promoting action. Quartz-free bead blasting is a suitable cleaning method.

Concrete substrate

The substrate must be clean, solid, open-pored and absorbent. Concrete substrates must be at least of quality B25. Roughen smooth, dense substrates. Remove dirt, laitance and unsound layers by blasting. Surfaces which have been treated with water-repellent sealants or evaporation protection agents are not suitable (for further details, see ZTV-ING, part 3, section 4, table 3.4.2., preparation of concrete substrate). Surfaces should be appropriately pretreated using a suitable process, such as sand blasting or high pressure water blasting.

Mixing

KEIM Concretal-MKH is sprinkled into an initially introduced amount of water with constant stirring and mixed to a homogeneous, lump-free mixture that can be applied by brush. The duration of mixing is 5 min. Slow-running mixers should be used.

Mixing ratio

Approx. 3.6 - 3.8 l (0.95 - 1.0 gal) of clean water is required for a 20 kg container.

Approx. 0.9-0.95 l (30.4 - 32.1 fl oz/0.24 - 0.25 gal) of clean water is required for a 5 kg container.

Quantity of water required is depending on temperature conditions: low temperature = low water requirement; high temperature = higher water requirement.

Application as corrosion protection

KEIM Concretal-MKH is applied onto the prepared steel reinforcement using suitable paintbrushes in two or three coats. Two coats are



necessary for PCC applications, three coats for SPCC applications. Each coat must be applied all round, covering the entire surface.

Care must here be taken to ensure that tie wires, edges etc. are carefully coated in order to achieve the necessary application rate. Waiting time at 20°C/68°F:

1st Coat immediately after rust removal/cleaning.

2nd Coat at least 3 hours after the 1st coat.

Application of bonding bridge at least 3 hours after the 2nd coat.

3rd Coat application for SPCC, at least 3 hours after the 2nd coat. Application of SPCC at least 12 hours after the 3rd coat.

Application as bonding bridge

The cleaned substrate must be pre-wetted and kept moist, if possible for 24 hours, but at least for 2 hours before applying KEIM Concretal-MKH. Apply KEIM Concretal-MKH onto the prepared area and brush in vigorously. Apply bonding bridge over entire area. Apply mixed KEIM Concretal-MKH within the working time (see "Technical data" table). Once mixed KEIM Concretal-MKH has started to harden it must be disposed of and cannot be diluted with water nor mixed with fresh KEIM Concretal-MKH. Do not allow KEIM Concretal-MKH to dry out before applying KEIM Concretal-Mörtel-R. Immediately apply KEIM Concretal-Mörtel-R wet-on-wet, otherwise prepare the surface again with fresh KEIM Concretal-MKH. Work KEIM Concretal-MKH into large areas section by section, as the subsequent coat of KEIM Concretal-Mörtel-R must be applied on the KEIM Concretal-MKH before it becomes dry.

Cleaning of tools

Clean tools, machinery and mixers with water immediately after use. After hardening, mechanical removal is the only option.

Application data/Technical data

Quantity of mixing water:

- 3.6 - 3.8 l (0.95 - 1 gal) for 20 kg of dry powder,
- 0.9 - 0.95 l (30.4 - 32.1 fl oz/0.24 - 0.25 gal)
for 5 kg of dry powder.

Mixing ratio, parts by mass:

100 : 18-19 dry powder : water

Mixing period: 5 min.

Maturing period: none

Fresh mortar density: 2.10 g/m³

Working times:

at + 5°C/41°F 75 min.

at + 20°C/68°F 60 min.

at + 30°C/86°F 45 min.

Waiting times:

- between 1st and 2nd coats at least 3 hours
- between 2nd coat and bonding bridge at least 3 hours
- (between 2nd and 3rd coats, for SPCC, at least 3 hours, before application of SPCC at least 12 hours).

Consumption:

- 120 g/linear meter (3.28 ft) 16 mm (5/8") diam. steel rod as corrosion protection (2 coats)
- 180 g/linear meter (3.28 ft) 16 mm (5/8") diam. steel rod as corrosion protection (3 coats)
- 1000 - 1100 g/m² (10.8 sq ft) as bonding bridge
(consumption figures dependent on substrate roughness and temperature).

Application conditions:

From + 5°C up to max. + 30°C (41 - 86°F) air and substrate temperature



5. Packaging

5 kg bag and 20 kg sack

6. Storage

Approx. 12 months when stored under cool, dry conditions in original packaging.

7. Hazardous substances ordinance class

Xi Irritant

R 38: Irritating to the skin.

R 41: Risk of serious damage to the eyes.

S 2: Keep out of reach of children.

S 22: Do not inhale dust.

S 24/25: Avoid contact with skin and eyes.

S 26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 37/39: Wear suitable gloves and eye/face protection.

S 46: If swallowed, seek medical advice immediately and show this container or label

8. Transport hazard class

n/a

9. Disposal

EC Waste Code No. 17 01 01

Any residues must be emptied out of containers before recycling.

10. Safety instructions

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.

Giscode: ZP 1

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