

Technical Datasheet

CreNovate FCRM-RM R4

Universal fiber-reinforced repair mortar for structurally relevant repair of concrete structures

Characteristics



Area of use

- Certified according to EN 1504-3 - Class R4
- Meets the requirements of:
 - ZTV-ING
 - DIN 19573
- Indoor and outdoor
- Hand application and wet spraying
- Overhead application as well as floors and walls
- Repairing of concrete breakouts and holes in concrete structures and balcony slabs
- Suitable for structures near the sea or on bodies of water
- Usage as coating mortar of sewage plants, sewers and tunnels

Properties


- 2 in 1: Repair mortar and bonding agent
- Well suited for overhead application
- Waterproof up to 5 m water column, from 10 mm layer thickness with water pressing from the inside
- Low shrinkage
- High resistance to chloride penetration and carbonation

Technical Data

Adhesive tensile strength	≥ 2 N/mm ²	EN 1542
Adhesive tensile strength after freeze-thaw	≥ 2 N/mm ²	EN 13687-1
Adhesive tensile strength after thunder shower	≥ 2 N/mm ²	EN 13687-2
Adhesive tensile strength after dry cycling	≥ 2 N/mm ²	EN 13687-4
Compressive strength after 1 d	≥ 18 N/mm ²	EN 12190
Compressive strength after 7 d	≥ 40 N/mm ²	EN 12190
Compressive strength after 28 d	≥ 50 N/mm ²	EN 12190
E-Modulus	≥ 20.000 N/mm ²	EN 13412
Capillary water absorption	≤ 0.5 kg/(m ² h ^{0.5})	EN 13057
Behaviour in fire	Class A1	DIN 13501-1
Carbonation depth	≤ Reference concrete mm (depth)	
Repair principles	3.1, 3.2, 3.3, 4.4, 7.1, 7.2	EN 1504-9
Applicable environment conditions	XC1, XC2, XC3, XC4 XD1, XD2, XD3 XS1, XS2, XS3 XF1, XF2, XF3, XF4 XA1, XA2 XM1 XWW1, XWW2, XWW3	EN 206 / DIN 1045-2 DIN 19573

The provided values represent typical characteristics of the product and should not be interpreted as binding product specifications.

Characteristics	
Base	Fiber reinforced polymer cement concrete (PCC)
Consistency	Powder
Number of Components	1
Grain size	≤ 3 mm
Wet mortar density	2.2 kg/l
Shelf life	Min. 12 months when stored dry, permanent stored < 30 °C and unopened
Packaging	25 kg paper bag with PE inlay
GISCODE	ZP1
Art.-No.	574219

Processing	
Processing temperature (Material, air and substrate)	5 °C to 30 °C
Mixing ratio mortar	3.5 - 3.7 l water per 25 kg bag
Mixing ratio 1 kg	0.14 - 0.15 l water per kg
Mixing ratio when used as bonding agent	0.16 l water per kg
Mixing time	3 min
Maturing time	3 min
Final mixing time	1 min
Working time*	45 min
Single layer min.	5 mm
Single layer max.	50 mm
Concrete outbreak	100 mm
Wet mortar consumption per 1 mm thickness	2.2 kg/m ²
Dry mortar consumption per 1 mm thickness	1.9 kg/m ²
Coverage of 25 kg bag	Approx. 2.6 m ² at 5 mm layer thickness
Application technique	Manual (Trowel, Spatula), Wet Spray 
Approved machines	See machine list

*At 20 °C - 65 % relative humidity. Higher temperatures decrease the given times, while lower temperatures increase them.

Processing guidelines

Preparation concrete surface	<ul style="list-style-type: none"> • Must not contain loose parts • Dust free and clean • Check for adequate adhesive tensile strength • Damp surface without puddles (Matt appearance) <ul style="list-style-type: none"> • Pre-wet surface at latest 2 h before work • Keep surface wet
Preparation reinforcement	<ul style="list-style-type: none"> • Any visible corrosion must be removed • Cleaning grade if corrosion protection used: SA 2½ • Basic Cleaning grade: SA 2
Processing indications	<ul style="list-style-type: none"> • Use tap water for mixing with mortar • Add CreNovate FCRM-RM R4 to bucket with water • Mix as long as described under processing and until free of lumps • FCRM-RM R4 can also be used as bonding agents <ul style="list-style-type: none"> • Different mixing ration -> Processing • Never add any substances to the mortar except tap water • Never add water after mortar has started to set • Only mechanical mixing of mortar • Dropped mortar must be thrown away
Subsequent processing	<ul style="list-style-type: none"> • Mortar must be protected against direct sunlight, strong wind, rain and frost for at least 48 h
Cleaning	<ul style="list-style-type: none"> • After use, clean tools with water immediately • Once cured, the product can only be removed mechanically
Safety / Disposal	For safety information related to transport, storage, handling, and disposal of the product, refer to the current Safety Data Sheet.

Please note that the data and information provided above are guidelines from laboratory and real-life experience and are not binding. This general information describes our products and their use, but due to varied working conditions, not every case can be covered. We recommend conducting tests or consulting us if in doubt. We provide information to outline our products and services, without guaranteeing specific properties or suitability for a particular purpose. Upon publication of a new version, the current Technical Data Sheet becomes invalid.