Technical Datasheet

CreNovate FCRM-RM R4 SR

Highly sulphate resistant 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
  - DVGW Worksheets W 270 and W 347
- Indoor and outdoor
- Hand application and wet spraying
- Repair of drinking water structures

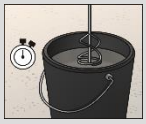
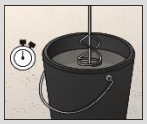
Properties

- High sulphate resistance
- Well suited for overhead application
- Reduced effective alkali content
- Low shrinkage
- Freeze-thaw resistant
- High resistance to chloride penetration

Technical Data		
Adhesive tensile strength	≥ 2 N/mm²	EN 1542
Adhesive tensile strength after freeze-thaw	≥ 2 N/mm²	EN 13687-1
Adhesive tensile strength after dry cycling	≥ 2 N/mm²	EN 13687-4
Compressive strength after 1 d	≥ 15 N/mm²	EN 12190
Compressive strength after 7 d	≥ 40 N/mm²	EN 12190
Compressive strength after 28 d	≥ 50 N/mm²	EN 12190
E-Modulus	≥ 25.000 N/mm²	EN 13412
Flexural strength after 28 d	≥ 8 N/mm²	EN 196-1
Capillary water absorption	≤ 0.5 kg/(m²h^{0,5})	EN 13057
Chloride migration coefficient after 28 d	1.17 x 10^{-12} m²/s	
Compressive strength acc. DIN 19573	B2	
Behaviour in fire	Class A1	DIN 13501-1
Old concrete classes	A3, A4	
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, XA3 XM1, XM2 XBW1, XBW2 XW1, XW2 XSTAT, XDYN WO, WF, WA	EN 206 / DIN 1045-2
	XWW1, XWW2, XWW3	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	≤ 2 mm
Wet mortar density	2 kg/l
Colour	Grey
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.	574220

Processing		
Processing temperature (Material, air and substrate)		5 °C to 30 °C
Mixing ratio mortar		2.7 l water per 25 kg bag
Mixing ratio 1 kg		0.11 l water per kg
Mixing time		3 min
Maturing time		1 min
Final mixing time		1 min
Working time*		60 min
Single layer min.		5 mm
Single layer max.		25 mm
Two layers max.		50 mm
Concrete outbreak		80 mm
Wet mortar consumption per 1 mm thickness		2 kg/m²
Dry mortar consumption per 1 mm thickness		1.8 kg/m²
Coverage of 25 kg bag		Approx. 2.8 m² at 5 mm layer thickness
Application technique		Manual (Trowel, Spatula), Wet Spray
Approved machines		See machine list

*At 20 °C. Higher temperatures decrease the given times, while lower temperatures increase them.

Processing guidelines	
Preparation concrete surface	• Must not contain loose parts • Dust free and clean • Check for adequate adhesive tensile strength • Damp surface without puddles (Matt appearance) • Pre-wet surface at latest 2 h before work • Keep surface wet
Preparation reinforcement	• Any visible corrosion must be removed • Cleaning grade if corrosion protection used: SA 2½ • Basic Cleaning grade: SA 2
Processing indications	• Use tap water for mixing with mortar • Add CreNovate FCRM-RM R4 SR to bucket with water • Mix as long as described under processing and until free of lumps • 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	• Mortar must be protected against direct sunlight, strong wind, rain and frost for at least 48 h
Cleaning	• 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.