



Betofix R4

Fibre-reinforced PCC (RM) for static repair of concrete structures

Colour	Availability
	Quantity per pallet 36
	Size / Quantity 25 kg
	Type of container Paper bag
	Container code 25
	Art. no.
grey	1096 ■

Application rate Approx. 2.0 kg/m²/mm layer thickness, or 2.0 kg/dm³



Range of use



- Concrete replacement according to
 - DIN EN 1504-3
 - Rili-SIB DAFStb 2001
 - ZTV-ING
 - ZTV-W LB 219
- Concrete replacement for structurally relevant repairs

Property profile

- High resistance to chloride penetration
- Sulphate-resistant
- High carbonation resistance
- Freeze/thaw resistant
- Good water retention capacity, low content of mixing water needed
- Very low shrinkage

Planning information



Betofix R4 - Classification										
acc. to Rili-Sib 2001	M3									
acc. to DIN EN 1504-3	R4									
Old concrete classes	A3	A4								
Reaction to fire	Class A1									
Impacts from the environment										
	XALL									
Carbonation	XC1	XC2	XC3	XC4						
Chlorides excluding seawater	XD1	XD2	XD3							
Chlorides from seawater	XS1	XS2	XS3							
Frost with/without de-icing agent	XF1	XF2	XF3	XF4						
Chemical attack	XA1	XA2								
Wear stresses	XM1	XM2								
Moisture class classification	WO	WF	WA							
Impacts from the concrete substrate										
Backfacing water	XBW1	XBW2								
Freshwater or seawater loads	XW1	XW2								
Static effect	XSTAT									
Dynamic stresses on application	XDYN									
Application										
Repair principles/procedures	3.1	3.2	3.3	4.4	5.3	6.3	7.1	7.2	7.4	

Characteristic data of the product

Water requirement	Approx. 11%, equivalent to 2.8 l/25 kg
Chloride migration coefficient after 28 days	28 d = $1.27 \cdot 10^{-12}$ m ² /s 90 d = $0.70 \cdot 10^{-12}$ m ² /s
Compressive strength	1 d approx. 20 N/mm ² 7 d approx. 45 N/mm ² 28 d \geq 50 N/mm ²
Flexural tensile strength (28 days)	\geq 8.0 N/mm ²
Dynamic E-modulus	\geq 25000 N/mm ²
Surface tensile strength	\geq 2.0 N/mm ²
Maximum grain size	2 mm

The values stated represent typical characteristic data of the product and are not to be understood as binding product specifications.

Certificates

➤ [EC Certificate QDB No. 921-CPR-2042](#)

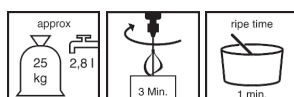
Possible system products

➤ [Betofix Fill \(1008\)](#)
➤ [Betofix KHB \(1087\)](#)

Preparation

- **Substrate preparation**
Concrete surface:
Stable, clean, dust-free
Observe the applicable technical regulations for the following parameters:
 - Adhesive pull strength of the substrate
 - Minimum roughness/roughness depth
 Pre-wet the substrate so that it is slightly moist.
- Reinforcement:**
Degree of purity SA 2 ½ if applying corrosion protection, otherwise SA 2

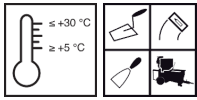
Production of the mixture



- **Mixing**
Prepare water, add dry mortar and mix until homogeneous.
Mechanical mixing only!
- Mixing time:** approx. 3 minutes
- Maturing time:** approx. 1 minute.
- Final mixing time:** approx. 1 minute



Directions



■ Conditions for use

Temperature of the material, air and substrate: from min. +5 °C to max. +30 °C.

Low temperatures increase, while high temperatures decrease the working and setting time.

Once it has hardened, mortar must not be made workable again by adding either water or more wet mortar.

Working time

(+20 °C): Approx. 60 minutes

Layer thickness

Single layer 5 - 25 mm

Two layers < 50 mm, apply wet on wet

Single layer in broken-out areas < 80 mm

Subsequent processing

Protect fresh mortar surfaces from wind, direct sunlight, rain and/or frost for at least 3 days so that they do not dry too quickly.

Machine working

Please contact Remmers Technical Service (phone +49 5432 83900) before applying with machine processing.

Tips on use

Automatic mixing only.

Tools / Cleaning



Mixing tool, trowel, smoothing trowel

Clean tools with water while the material is still fresh.

Remmers tools

- Mischgefäß (4030)
- Profile Trowel (5047)
- Rundkelle (4114)
- Smoothing Trowel (4004)
- Glättkelle (4117)
- Smoothing Trowel Duo (4118)

Storage / Shelf life

If stored in an unopened container and in a dry place, the product will keep for approx. 12 months.



Safety data / Regulations

For further information on the safety aspects of transporting, storing and handling the product and on disposal and environmental matters, please see the current Safety Data Sheet.

Disposal

Larger quantities of leftover product should be disposed of in the original containers in accordance with the applicable regulations. Completely empty, clean containers should be recycled. Do not dispose of together with household waste. Do not allow to enter the sewage system. Do not empty into drains.



Declaration of conformity



0921

Remmers GmbH

Bernhard-Remmers-Str. 13, D – 49624 Lönigen

09

GBI-P 1-3

EN 1504-3: 2005

1096

Product for structural and non structural repair for concrete

Compressive strength:	Class R4
Chloride ion content:	0.05 %
Adhesive bond:	≥ 2.0 MPa
Restrained shrinkage/expansion:	≥ 2.0 MPa
Carbonation resistance:	Passed
Elastic modulus:	≥ 20 GPa
Thermal compatibility part 1 and 4:	≥ 2.0 MPa
Capillary absorption:	≤ 0.5 kg/(m ² h ^{0.5})
Reaction to fire:	Class A1

Please note that the data and information given above have been calculated as guidelines in the laboratory and from real-life experience and are therefore not binding as a basic principle.

This information is therefore of a general nature only and describes our products and how they are used and worked with. In this respect, it must be borne in mind that the varied and diverse nature of the

prevailing working conditions, materials used and construction sites encountered means that not every individual case can be covered. In this respect, we therefore recommend either conducting tests or liaising with us in the event of any doubt. Unless we have provided express written assurance of the products' specific suitability or characteristics in respect of a contractually stipulated intended use, any technical application-related advice or instruction will never

be binding, even though it is provided to the best of our knowledge. In all other respects, our general terms and conditions of sale and delivery shall apply.

When a new version of this Technical Data Sheet is published, it shall replace the previous version.