

PAGEL®

SPEZIAL-BETON



R20

RAPID REPAIR MORTAR



- a mortar suitable for use throughout the entire year
- one product – one system
- repair mortar as specified by DIN EN 1504-3
- can be applied at temperatures as low as 1 °C
- ready for bearing loads within 2 hours when applied at 5 °C
- suitable for use on walls and floors
- suitable for sewer repairs

*Supplying quality mortars
.....across the globe!*

R20 PAGEL-RAPID REPAIR MORTAR SYSTEM

PRODUCTS

- **R20/02 PAGEL-RAPID FINEGRAIN REPAIR PUTTY** (0–0.2 mm)
- **R20/05 PAGEL-RAPID REPAIR PUTTY** (0–0.5 mm)
- **R20/10 PAGEL-RAPID REPAIR MORTAR** (0–1.0 mm)
- **R20/20 PAGEL-RAPID REPAIR MORTAR** (0–2.0 mm)
- **R20/40 PAGEL-RAPID REPAIR MORTAR** (0–4.0 mm)
- **R20/80 PAGEL-RAPID REPAIR MORTAR** (0–8.0 mm)



PROPERTIES

- durable solution for urgent repairs
- can be applied at temperatures as low as 1 °C
- ready for bearing loads within 2 hours when applied at 5 °C
- supplied ready for use and easy to apply
- polymer-modified, inhibits corrosion
- free from chloride and alumina cement
- frost and road-salt resistant
- residual moisture content after 24 h < 4 % and < 3 % after 3 days
- frost resistant after 8 hours (5 °C)
- building material class A1 (non-combustible) as specified by EN 13501 and DIN 4102



FIELDS OF APPLICATION

- suitable for small-scale cosmetic and restorative work (**R20/02, R20/05**)
- suitable for urgent repairs
- suitable for use on concrete and mortar substrates
- suitable for application to walls and floors
- suitable for restoring shafts
- suitable for use in industrial facilities, on ramps, garages
- suitable for repairing and restoring concrete
- suitable for repairing broken areas, holes, edges
- suitable for repairing the inside of sewers

PROCESSING

SUBSURFACE: Clean thoroughly; remove all loose objects and objects that might prevent adhesion, as well as cement slurries, using blasting or similar. The substrate must have an adequate pull-off strength (1.5 N/mm²), roughness and load bearing capacity. **Moisten to saturation before application!**

Remove all rust from any exposed reinforcing steel (Sa 2 1/2 in accordance with DIN 55928, Part 4) and coat with **MS02 PAGEL CORROSION PROTECTION** without leaving any gaps.

Concrete layers thicker than 10 mm and that are subsequently covered with putty (**R20/05**) and OS/(**O2C**) do not require any corrosion protection.

BONDING LAYER: Mix small quantities of **R20/10 PAGEL RAPID REPAIR MORTAR** to create a slurry with a water content of no more than 13 % and brush deep into cavities and pores.

MIXING: Pour all of the water, with the exception of a small amount, into a compulsory mixer. Add the dry mortar and mix. Add the remaining water and mix again. Mix for a total of at least 5 minutes.

APPLICATION: Once mixed to a plastic consistency, apply the **R20 PAGEL RAPID REPAIR MORTAR** in one go to the bonding layer before it has had a chance to set and smooth after an appropriate waiting period. Always make sure to keep the application tools wet!



APPLICATION TIME: **R20 PAGEL RAPID REPAIR MORTAR** is designed to start setting after approx. 15 minutes when applied at 20 °C. It is ready for smoothing after just a short time.

CAUTION: Protect the repaired surface against wind, drafts and premature water evaporation using, e.g. sheeting, for 3-5 days after application. The supplementary information provided in the Technical Data Sheet **O1 PAGEL EVAPORATION PROTECTION** must also be taken into consideration if exposed to direct sunlight or wind.



R20 PAGEL-RAPID REPAIR MORTAR SYSTEM

TECHNICAL DATA

TYPE (putty)		R20/02	R20/05
particle size	mm	0-0.2	0-0.5
layer thickness	mm	0.5-5	2-6
amount of water	%	max. 18	14-16
consumption	kg/dm ³	app. 1.9	app. 1.8
starts setting after	20 °C min.	app. 15	app. 15
density of freshly mixed mortar	kg/dm ³	app. 2.15	app. 2.1
compressive strength*	2 h	N/mm ² ≥ 5	≥ 5
	4 h	N/mm ² ≥ 6	≥ 10
	8 h	N/mm ² ≥ 10	≥ 13
	1 d	N/mm ² ≥ 15	≥ 20
	7 d	N/mm ² ≥ 30	≥ 40
	28 d	N/mm ² ≥ 50	≥ 50
adhesive tensile strength	28 d	N/mm ² ≥ 2	≥ 2

All test data are guide values, proofed in our German manufacturing plants, - values from other manufacturing plants may vary.



TYPE (mortar)		R20/10	R20/20	R20/40	R20/80
particle size	mm	0-1.0	0-2.0	0-4.0	0-8.0
layer thickness	mm	3-20	5-40	20-50	30-100
amount of water	%	11-13	11-12	11-12	11-12
consumption	kg/dm ³	app. 1.9	app. 2.0	app. 2.0	app. 2.0
starts setting after	20 °C min.	app. 15	app. 15	app. 15	app. 15
density of freshly mixed mortar	kg/dm ³	app. 2.19	app. 2.23	app. 2.2	app. 2.23
compressive strength*	2 h	N/mm ² ≥ 5	≥ 5	≥ 5	≥ 5
	4 h	N/mm ² ≥ 10	≥ 10	≥ 10	≥ 10
	8 h	N/mm ² ≥ 15	≥ 15	≥ 15	≥ 15
	1 d	N/mm ² ≥ 20	≥ 25	≥ 25	≥ 25
	7 d	N/mm ² ≥ 40	≥ 40	≥ 45	≥ 40
	28 d	N/mm ² ≥ 55	≥ 55	≥ 55	≥ 55
adhesive tensile strength	28 d	N/mm ² ≥ 2	≥ 2	≥ 2	≥ 2

* DIN EN 196-1-compliant compressive strength testing
DIN EN 12390-3-compliant compressive strength testing

All test data are guide values, proofed in our German manufacturing plants, - values from other manufacturing plants may vary.

storage: 6 months. Cool, dry, free from frost.
Unopened in its original packaging.

packaging: 25-kg bag, euro-pallet 1,000 kg

hazard class: no dangerous substance follow safety data sheet

giscode: ZP1

Exposition category according to:
DIN 1045-2 / EN 206-1

PAGEL - RAPID REPAIR MORTAR

	XO	XC	XD	XS	XF	XA	XM
	0	1 2 3 4	1 2 3	1 2 3	1 2 3 4	1 2 3	1 2 3
R20/02	•	•••••	••		••	•	•
R20/05	•	•••••	•••••	•••••	•••••	•••••	••
R20/10	•	•••••	•••••	•••••	•••••	•••••	•••••
R20/20	•	•••••	•••••	•••••	•••••	•••••	•••••
R20/40	•	•••••	•••••	•••••	•••••	•••••	•••••
R20/80	•	•••••	•••••	•••••	•••••	•••••	•••••

R20/10: Assigned to exposure class XA3/XWWS according to the sulfate resistance test in compliance with DIN 19573

<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270707 EN 1504-3:2005 R20/02 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R3 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 1.5 MPa Restrained shrinkage/expansion ≥ 1.5 MPa Carbonation resistance NPD Elastic modulus ≥ 15 GPa Reaction to fire A1</p>	<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270705 EN 1504-3:2005 R20/05 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R3 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 1.5 MPa Restrained shrinkage/expansion ≥ 1.5 MPa Carbonation resistance NPD Elastic modulus ≥ 15 GPa Reaction to fire A1</p>	<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270701 EN 1504-3:2005 R20/10 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R4 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 2.0 MPa Restrained shrinkage/expansion ≥ 2.0 MPa Carbonation resistance NPD Elastic modulus ≥ 20 GPa Reaction to fire A1</p>	<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270706 EN 1504-3:2005 R20/20 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R4 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 2.0 MPa Restrained shrinkage/expansion ≥ 2.0 MPa Carbonation resistance NPD Elastic modulus ≥ 20 GPa Reaction to fire A1</p>	<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270704 EN 1504-3:2005 R20/40 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R4 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 2.0 MPa Restrained shrinkage/expansion ≥ 2.0 MPa Carbonation resistance NPD Elastic modulus ≥ 20 GPa Reaction to fire A1</p>
<p>CE 0921</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>09 270708 EN 1504-3:2005 R20/80 PAGEL Rapid repair mortar</p> <p>Product for structural and non structural repair for concrete</p> <p>Compressive strength class R4 Chloride ion content ≤ 0.05 % Adhesive bond ≥ 2.0 MPa Restrained shrinkage/expansion ≥ 2.0 MPa Carbonation resistance NPD Elastic modulus ≥ 20 GPa Reaction to fire A1</p>	<p>CE</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>06 270701 EN 13813:2002 R20/10 PAGEL Rapid repair mortar Cementitious screed material for wearlayers</p> <p>Reaction to fire A1_u Release of corrosive substances CT Compressive strength C60 Bending strength F10 Wear resistance A12</p>	<p>CE</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>06 270706 EN 13813:2002 R20/20 PAGEL Rapid repair mortar Cementitious screed material for wearlayers</p> <p>Reaction to fire A1_u Release of corrosive substances CT Compressive strength C60 Bending strength F10 Wear resistance A12</p>	<p>CE</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>06 270704 EN 13813:2002 R20/40 PAGEL Rapid repair mortar Cementitious screed material for wearlayers</p> <p>Reaction to fire A1_u Release of corrosive substances CT Compressive strength C60 Bending strength F10 Wear resistance A9</p>	<p>CE</p> <p>PAGEL SPEZIAL-BETON GMBH & CO.KG Wolfsbankring 9 45355 Essen, Germany</p> <p>06 270708 EN 13813:2002 R20/80 PAGEL Rapid repair mortar Cementitious screed material for wearlayers</p> <p>Reaction to fire A1_u Release of corrosive substances CT Compressive strength C60 Bending strength F7 Wear resistance A9</p>

NPD: „No Performance Determined“



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The data presented was derived from tests under normal climate conditions according to DIN 50014 and mean average values and analysis.

Deviations are possible when delivery takes place.

Given that recommendations may differ from those shown in this leaflet written confirmation should be sought. It is the responsibility of the purchaser to ensure they have the latest leaflet issue and that its contents are current.

Our customer service staff will be glad to provide assistance at any time.

We appreciate the interest you have shown in our products.

This technical data sheet supercedes previously issued information.

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Technical information sheet 0802 QS-Formblatt 09.16 Rev. 02