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# PAGEL®

## SPEZIAL-BETON



# R 20

## 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

## 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/O2, R20/O5)
- Suitable for urgent repairs
- Suitable for use on concrete and mortar substrates
- Suitable for application to walls and floors
- 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
- Suitable for restoring shafts

## PRODUCTS

- R20/O2 PAGEL-RAPID FINEGRAIN REPAIR PUTTY (0-0,2 mm)
- R20/O5 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)

## 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/mm<sup>2</sup>), 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 MSO2 PAGEL CORROSION PROTECTION without leaving any gaps.

Concrete layers thicker than 10 mm and that are subsequently covered with putty (R20/O5) 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. 30 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.



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# R20 PAGEL-RAPID REPAIR MORTAR SYSTEM

## TECHNICAL DATA

TYPE (Putty)		R20/O2	R20/O5
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 <sup>3</sup>	1.9	1.8
Starts setting after	20°C min.	app. 15	app. 15
Density of freshly mixed mortar	kg/dm <sup>3</sup>	2.15	2.1
Compressive strength*	2 h	N/mm <sup>2</sup>	≥ 5
	4 h	N/mm <sup>2</sup>	≥ 6
	8 h	N/mm <sup>2</sup>	≥ 10
	1 d	N/mm <sup>2</sup>	≥ 15
	7 d	N/mm <sup>2</sup>	≥ 30
	28 d	N/mm <sup>2</sup>	≥ 50
Adhesive tensile strength	28 d	N/mm <sup>2</sup>	≥ 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 <sup>3</sup>	1.9	2.0	2.0	2.0
Starts setting after	20°C min.	app. 15	app. 15	app. 15	app. 15
Density of freshly mixed mortar	kg/dm <sup>3</sup>	2.19	2.23	2.2	2.23
Compressive strength*	2 h	N/mm <sup>2</sup>	≥ 5	≥ 5	≥ 5
	4 h	N/mm <sup>2</sup>	≥ 10	≥ 10	≥ 10
	8 h	N/mm <sup>2</sup>	≥ 15	≥ 15	≥ 15
	1 d	N/mm <sup>2</sup>	≥ 20	≥ 25	≥ 25
	7 d	N/mm <sup>2</sup>	≥ 40	≥ 40	≥ 45
	28 d	N/mm <sup>2</sup>	≥ 55	≥ 55	≥ 55
Adhesive tensile strength	28 d	N/mm <sup>2</sup>	≥ 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:** Can be stored for up to 6 months in a dry place and while in sealed packaging  
**Packaging:** 25-kg bag  
**Hazard class:** Non-hazardous material, please see safety data sheet  
**GISCODE:** ZP1

CE 0921 PAGEL® SPEZIAL-BETON GmbH & Co. KG, D-45355 Essen find the printed batch number 0921 - BPR - 2034 EN 1504-3:2005						
R20 PAGEL® - RAPID REPAIR MORTAR Mortar for statically and not statically relevant repairs (on the basis of hydraulic cement)						
Product name:	R20/O2	R20/O5	R20/10	R20/20	R20/40	R20/80
Class	R3		R4			
Compressive strength	≥ 25 MPa		≥ 45 MPa			
Chloridion content	≤ 0.05 %		≤ 0.05 %			
Adhesion	≥ 1.5 MPa		≥ 2.0 MPa			
Prevented shrinkage/swelling	≥ 1.5 MPa		≥ 2.0 MPa			
Resistance to carbonation	NPD		NPD			
Modulus of elasticity	≥ 15 GPa		≥ 20 GPa			
Temperature variation tolerance	NPD		NPD			
Grip	NPD		NPD			
Thermal expansion coefficient	NPD		NPD			
Capillary water absorption	NPD		NPD			
Reaction to fire	NPD		Class A1			
Hazardous Substance	In accordance with EN 1504-3:2005, 5.4					

NPD: „No Performance Determined“

CE PAGEL® SPEZIAL-BETON GmbH & Co. KG, D-45355 Essen find the printed batch number EN 13813 PAGEL® - RAPID REPAIR MORTAR Cement based screed				
Product name:	R20/10	R20/20	R20/40	R20/80
Reaction to fire	Afl	Afl	Afl	Afl
Compressive strength	C60	C60	C60	C60
Bending strength	F10	F10	F10	F7
Release of corrosive substances	CT	CT	CT	CT
Water permeability	NPD			
Wear resistance	A12	A12	A9	A9
Sound insulation	NPD			
Sound absorption	NPD			
Thermal insulation	NPD			
Resistance to chemicals	NPD			

NPD: „No Performance Determined“

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/O2	•	• • • • •	• •		• •	•	•
R20/O5	•	• • • • •	• • • • •	• • • • •	• • • • •	•	•
R20/10	•	• • • • •	• • • • •	• • • • •	• • • • •	• •	•
R20/20	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• •
R20/40	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
R20/80	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •

R20/O2 - R20/80	R20/10 - R20/20	R20/40	R20/80
CE 0921 PAGEL Spezial-Beton Werkstoff-Lösung 9 45355 Essen find the printed batch number 0921-BPR-2034 EN 1504-3	CE PAGEL Spezial-Beton Werkstoff-Lösung 9 45355 Essen find the printed batch number CT C60 F10 A12 EN 13813	CE PAGEL Spezial-Beton Werkstoff-Lösung 9 45355 Essen find the printed batch number CT C60 F10 A9 EN 13813	CE PAGEL Spezial-Beton Werkstoff-Lösung 9 45355 Essen find the printed batch number CT C60 F7 A9 EN 13813

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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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