

# PAGEL®

## SPEZIAL-BETON



## UNIVERSAL MORTAR



- Cementitious, ready-to-use grout
- Frost and road-salt resistant
- Sprayable
- Extremely stable and bonds strongly
- A1 non-combustible
- Microsilica tempered
- Grout, screeding compound with CE marking

*...we produce great grout  
- worldwide!*

# PAGEL-UNIVERSAL MORTAR

## PROPERTIES

- Cementitious, ready-to-use grout
- Ideal for use on vertical, horizontal and overhead surfaces
- Sprayable
- Extremely stable and bonds strongly
- Only requires the addition of water
- Also available with synthetic or steel fibres
- Frost and road-salt resistant
- Microsilica tempered
- Prevents the intrusion of CO<sub>2</sub>
- Building material class A1 (non-combustible) as specified by EN 13501 and DIN 4102
- EN 1504-3, EN 13813



## FIELDS OF APPLICATION

- Facades, wall, floor and ceiling surfaces
- Industrial floor
- Concrete repair
- Laying of construction materials
- Repairing holes, edges and cracks
- Sealing joints
- Repairing sewers
- Embedding, grouting
- Grouting fire-protection equipment
- Cosmetic concrete repairs
- Restorative work
- Levelling rough surfaces
- Sealing pores and cavities
- Sealing tapered holes



## PRODUCTS

- U02 PAGEL-FINE STOPPER (0-0,2 mm)
- U05 PAGEL-STOPPER (0-0,5 mm)
- U10 PAGEL-FINE MORTAR/ADHESION BRIDGE (0-1,0 mm)
- U20 PAGEL-REPAIR MORTAR (0-2,0 mm)
- U40 PAGEL-REPAIR MORTAR (0-4,0 mm)
- U80 PAGEL-REPAIR MORTAR (0-8,0 mm)
- U160 PAGEL-REPAIR MORTAR (0-16,0 mm)

## PROCESSING

**SUBSTRATE:** Carefully clean, remove loose and adhesion-reducing parts as well as cement slurry by high-pressure-water blasting or such like down to the load-bearing grain structure; sufficient abrasion resistance must be guaranteed (mean  $\geq 1.5$  N/mm<sup>2</sup>). Pre-wet to saturation. Remove rust from exposed concrete steel and coat without gaps with MS02 PAGEL-CORROSION PROTECTION or with EH3 PAGEL-EPOXIDE RESIN.

**MIXING:** Apart from a residual quantity, pour the water into the forced-circulation mixer. Add dry mortar and mix for approx. 3 minutes. Add the rest of the water and mix for a further 2 minutes.

**ADHESION BRIDGE:** Stir U10 with the maximum specified quantity of water as slurry and brush into the substrate to the depth of the pores. No adhesion bridge is necessary when the spray process is used. In the event of highly variable absorption properties of the substrate we recommend the use of EH1 PAGEL-EPOXY RESIN adhesion bridge.

**PROCESSING:** Introduce UNIVERSAL MORTAR at plastic consistency into the not yet set adhesion bridge, distribute it and smooth it. For application by the spray process, ask for special technical advice if this is required. Take account of expansion joints.

**CAUTION:** Open areas must be protected against wind, drafts and premature evaporation by using for example plastic foil or O1 PAGEL-CURING AGENT.

**Temperature:** Apply between 41°F and 95°F (5°-35°C).

Low temperature working conditions retard the strength development and reduce the flowability, while high temperatures accelerate the same.

**Non-Iron Metals:** Cement as well as all cement-based building materials may under certain circumstances remove non-iron-metals in the application area (for example aluminium, copper, zinc). Please ask for our technical assistance.



# PAGEL-UNIVERSAL MORTAR

## TECHNICAL DATA

TYPE (Stopper)		U02	U05
granulation	mm	0-0.2	0-0.5
coating thickness	mm	0.5-3.0	2.0-6.0
quantity of water	%	max. 18	max. 16
consumption	kg/dm <sup>3</sup>	1.9	1.9
processing time	20 °C Min.	app. 60	app. 60
fresh mortar coarse density	kg/dm <sup>3</sup>	2.15	2.15
compressive strength*	24 h	N/mm <sup>2</sup> ≥ 15	≥ 15
	7 d	N/mm <sup>2</sup> ≥ 40	≥ 35
	28 d	N/mm <sup>2</sup> ≥ 50	≥ 50
bending strength	24 h	N/mm <sup>2</sup> ≥ 4	≥ 3
	7 d	N/mm <sup>2</sup> ≥ 6	≥ 5
	28 d	N/mm <sup>2</sup> ≥ 7	≥ 7
abrasion strength	7 d	N/mm <sup>2</sup> ≥ 1.5	≥ 1.5
modulus of elasticity	28 d	N/mm <sup>2</sup> -	-

\* 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.

TYP (Mortar)		U10	U20	U40	U80	U160
granulation	mm	0-1	0-2	0-4	0-8	0-16
coating thickness	mm	5-20	10-30	10-40	30-80	≥ 50
quantity of water	%	11-13	11-13	11-12	11-12	10
consumption	kg/dm <sup>3</sup>	1.8	1.9	1.9	1.9	2.15
processing time	20 °C Min.	app. 60	app. 60	app. 60	app. 60	app. 60
fresh mortar coarse density	kg/dm <sup>3</sup>	2.1	2.15	2.16	2.03	2.36
compressive strength*	24 h	N/mm <sup>2</sup> ≥ 20	≥ 20	≥ 25	≥ 20	≥ 35
	7 d	N/mm <sup>2</sup> ≥ 50	≥ 40	≥ 50	≥ 45	≥ 50
	28 d	N/mm <sup>2</sup> ≥ 60	≥ 50	≥ 65	≥ 55	≥ 60
bending strength	24 h	N/mm <sup>2</sup> ≥ 3	≥ 3	≥ 4	-	-
	7 d	N/mm <sup>2</sup> ≥ 6	≥ 6	≥ 6	-	-
	28 d	N/mm <sup>2</sup> ≥ 7	≥ 7	≥ 8	-	-
abrasion strength	7 d	N/mm <sup>2</sup> ≥ 2	≥ 2	≥ 2	≥ 2	≥ 2
modulus of elasticity	28 d	N/mm <sup>2</sup> ≥ 20,000	≥ 20,000	≥ 20,000	≥ 20,000	≥ 20,000

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

supplied in: 25 kg sack  
 storage: dry and frost-free  
 shelf-life: 9 month in closed sacks  
 hazard class: Not dangerous substance, follow safety data sheet  
 types of cement: Other types of cement can also be supplied although the technical properties are changed as a result. If you have any queries, please get in touch with our Customer Services.

CE							
0921							
PAGEL® SPEZIAL-BETON GmbH & Co. KG, D-45355 Essen							
find the printed batch number							
0921 - BPR - 2034							
EN 1504-3:2005							
PAGEL® - UNIVERSAL MORTAR							
Mortar for statically and not statically relevant repairs (on the basis of hydraulic cement)							
Product name	U02	U05	U10	U20	U40	U80	U160
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	requi. passed NPD*		requirements passed				
Modulus of elasticity	≥ 15 GPa		≥ 20 GPa				
Temperature variation tolerance	NPD						
Grip	NPD						
Thermal expansion coefficient	NPD						
Capillary water absorption	NPD						
Reaction to fire	Class E		Class A1				
Hazardous Substance	In accordance with EN 1504-3:2005, 5.4						

NPD: „No Performance Determined“  
 \* When used to repair concrete in accordance with EN 1504-3, the substrate must also be provided with a carbonisation coating in accordance with EN 1504-2

CE					
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find the printed batch number					
EN 13813					
PAGEL® - UNIVERSAL MORTAR					
Cement based screed					
Product name	U10	U20	U40	U80	U160
Reaction to fire	Afl	Afl	Afl	Afl	Afl
Compressive strength	C60	C50	C60	C50	C60
Bending strength	F10	F7	F10	F7	F7
Release of corrosive substances	CT	CT	CT	CT	CT
Water permeability			NPD		
Wear resistance	A9	A9	A9	A9	A9
Sound insulation			NPD		
Sound absorption			NPD		
Thermal insulation			NPD		
Resistance to chemicals			NPD		

NPD: „No Performance Determined“

Assigning to expositioncategory according to:  
 DIN 1045-1 / EN 206-1

PAGEL - UNIVERSAL 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
U02	•	• • • • •	• •		• •	•	
U05	•	• • • • •	• •		• •	•	
U10	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
U20	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
U40	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
U80	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
U160	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •

U02 - U160	U10 and U40	U20 and U80	U160
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0921-BPR-2034	CT C60 F10 A9	CT C50 F7 A9	CT C60 F7 A9
EN 1504-3	EN 13813	EN 13813	EN 13813



# PAGEL®

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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.

Please find the latest leaflet issues at [www.pagel.com](http://www.pagel.com).