

PAGEL®-REPAIR MORTAR

PROPERTIES

- **concrete-Replacement-System** in accordance with **TL/TP-BE PCC of ZTV-ING98** on cement basis for the maintenance and coating of concrete and mortar areas
- excellently suitable for processing on vertical and **over-the-head-surfaces** and on horizontal substrates
- sprayable, particularly easy processing and very **high stability and adhesion** to vertical and over-the-head-areas
- **plastic-strengthened** and **ready-for-use**. The preparation liquid consists only of water, the polymer component is already contained in the mortar as powder
- **water-vapour-diffusion** and resistant to frost and dew-salt
- **reduces the penetration of CO₂ and moisture** (carbonisation), largely impervious to oil and water, at the same time corrosion-checking and to a high degree resistant to saponification
- has already had **great succes in practice**, even in bridge constructions in difficult climatic conditions
- monitored in accordance with the valid standards and guidelines production is certified in accordance to **ISO 9001**
- is supplied as a system and consists of the following products:
 - MS02 PAGEL-CORROSION-PROTECTION AND ADHESION BRIDGE
 - MS05 PAGEL-STOPPER (0.1-0.5 mm)
 - MS 20 PAGEL-REPAIR MORTAR (0.1-2.0 mm)

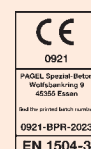
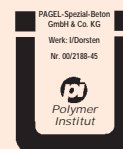
FIELDS OF APPLICATION

- coating and maintenance of bridges, tunnels and concrete structures
- wall and ceiling areas and over-the-head work
- laying of construction materials (bricks, plates and tiles etc.)
- binding of pre-fabricated concrete parts and old and new concrete
- repair of holes, edges and cracks
- jointing of masonry, floor and expansion joints

MS 20®

Exposition category according to:
DIN 1045-2 / EN 206-1 / ZTV-W LB219
MS20 PAGEL – 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
MS 20	•	• • • •	• • • •	• • • •	• • • • •	• •	• •



TECHNICAL DATA		
TYPE	MS 20®	
Grain size	mm	0.1–2.0
Coating thickness	mm	6–40
Amount of water	%	11–12
Consumption	kg/dm ³	2.00
Density of freshly mixed mortar	kg/dm ³	2.16
Processing time	min.	ca. 60
Compressive strength*	24 h N/mm ²	≥ 20
	7 d N/mm ²	≥ 45
	28 d N/mm ²	≥ 55
Bending strength	24 h N/mm ²	≥ 4
	7 d N/mm ²	≥ 6
	28 d N/mm ²	≥ 8
Class R4	after 7 d N/mm ²	≥ 2.0
E-Module (static)	28 d N/mm ² app.	34500

All test data are guide values, proofed in our German manufacturing plants, - values from other manufacturing plants may vary.
* DIN EN 196-1-compliant compressive strength testing

supplied in: 25-kg-bag
storage: dry and in closed containers
shelf-life: 9 months
hazard class: Not a 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-2023	
EN 1504-3:2005	
MS 20® PAGEL®-REPAIR MORTAR Mortar for statically and not statically relevant repairs (on the basis of hydraulic cement)	
Compressive strength	Class R4
Chloridion content	≤ 0,05 %
Adhesion	≥ 2,0 MPa
Prevented shrinkage/swelling	≥ 2,0 MPa
Resistance to carbonation	NPD
Modulus of elasticity	≥ 20 GPa
Temperature variation tolerance	NPD
Grip	NPD
Thermal expansion coefficient	NPD
Capillary water absorption	NPD
Reaction to fire	Class E
Hazardous Substance	In accordance with EN 1504-3:2005, 5.4

NPD: „No Performance Determined“

Having concrete repairs in accordance with EN 1504-3, an additional carbonation-protection-system in accordance with EN 1504-2 needs to be applied.

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/mm²). Pre-wet to saturation. Remove rust from exposed concrete steel (degree of purity Sa 2 to Sa 2½) and coat without gaps with MS O2 PAGEL-CORROSION PROTECTION.

MIXING: Apart from a residual quantity, pour the water (max. 13%, corresponding to 3,25 l per sack) 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: Mix MS O2 PAGEL-ADHESION-BRIDGE in small quantities with the maximum specified quantity of water as slurry and brush into the substrate pore-deep. When using the spray process, no adhesion bridge is required.

PROCESSING: Introduce MS PAGEL-REPAIR-MORTAR in plastic consistency into the not yet set adhesion bridge, distribute and smooth. If using the spray process, seek special technical advice if required.

AFTER-TREATMENT: The mortar surfaces must be protected against premature water evaporation by keeping them moist e. g. with water mist jet and an airtight-closing film of wet strips of jute (ZTV-ING, Section 6.65, 5 days). O2C PAGEL-CONCRETE PROTECTION PAINT is suitable as after-treatment agent for subsequent OS coating.

MS-CONCRETE MAINTENANCE SYSTEM

- MS O2 PAGEL-CORROSION PROTECTION AND ADHESION BRIDGE
 - MS 20® PAGEL-REPAIR MORTAR granulation 0–2 mm
 - MS O5 PAGEL-PCC STOPPER granulation 0–0,5 mm
 - O2A PAGEL-HYDROPHOBATION (cream-like)
 - O2C PAGEL-CONCRETE PROTECTION PAINT AND CURING (ZTV-ING Class OS-C)
- or
- O2DE PAGEL-CONCRETE PROTECTION PAINT (ZTV-ING Class OS-DII)
 - D 1 PAGELASTIC (ZTV-ING Class OS-DI)

The information provided in this leaflet, is supplied by our consulting service and is the end result of exhaustive research work and extensive experience. They are, however, without liability on our part, in particular with regard to third parties proprietary rights, and do not relieve the user of the responsibility for verifying that the products and processes are suitable for the intended application. 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.



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