

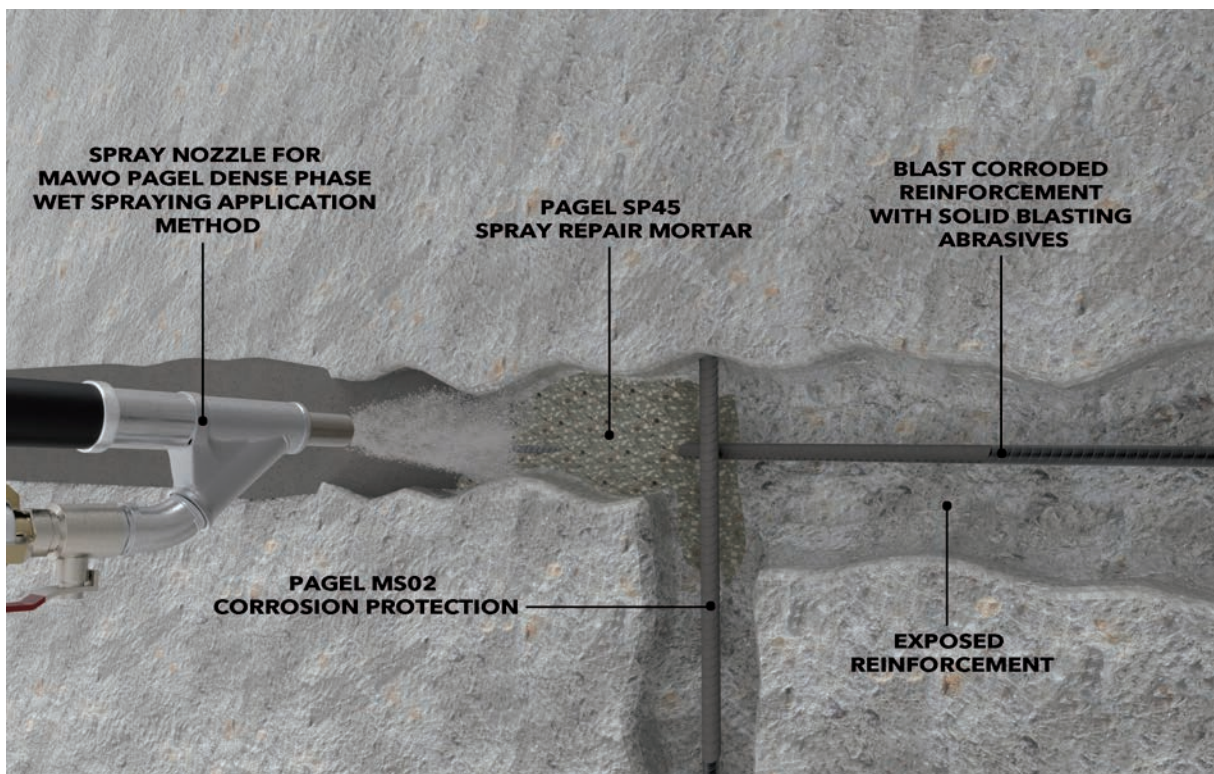
SPRAY MORTAR (SPCC)

(ZTV-W LB 219: A2, A3)

SP45 SPRAY MORTAR (SPCC) (0-4 mm)

TEST CERTIFICATES AND SUPPORTING DOCUMENTS

- › Concrete replacement for the old concrete classes A2 and A3 - Verification by testing according to ZTV-W LB 219
- › High resistance to chloride penetration - Verification by testing of the chloride migration coefficient
- › High frost and frost-deicing salt resistance - Verification by CIF and CDF procedure
- › Verification of the durability in the event of a water change stress acc. to BAW recommendation
- › Factory production control acc. to DIN EN 1504-3
- › Company certification acc. to DIN EN ISO 9001:2015



PROPERTIES

- › Cementitious, hydraulic-setting SPCC spray mortar for dense phase wet spraying application methods
- › Ready to use, only requires mixing with water
- › Microsilica-modified
- › Also suitable for reinforcement back injection
- › Extremely stable on both vertical and overhead surfaces
- › Low modulus of elasticity and low shrinkage
- › High frost and frost-deicing salt resistance
- › Impermeable to water and largely resistant to mineral oils and fuels
- › Pumpable and easy to pour using mono-transfer pumps with variable speed gearboxes

AREAS OF APPLICATION

- › Repair of hydraulic structures in the area of responsibility of the Bundesamt für Wasserbau (BAW) [Federal Waterways Engineering and Research Institute] acc. to ZTV-W LB 219: A2, A3
- › Repairing of concrete and reinforced concrete buildings with low compressive strengths
- › Reservoirs, weirs, ship hoists, quay walls

MOISTURE CLASSES BASED ON CONCRETE CORROSION FROM ALKALI-SILICIC ACID REACTIONS

Moisture class	WO	WF	WA	WS
SP45	•	•	•	•

The aggregates in PAGEL®'s products comply with the requirements of alkali sensitivity class E1 from non-hazardous sources specified under DIN EN 12620.

EXPOSURE CLASS ALLOCATION ACC. TO: DIN EN 206-1 / DIN 1045-2 / ZTV-W LB 219 / ZTV-ING TEIL 3

	XO	XC	XD	XS	XF	XA	XM	XW
	1 2 3 4	1 2 3	1 2 3	1 2 3	1 2 3 4	1 2 3*	1 2 3	1 2
SP45	•	• • • •	• •	• •	• • • • •	•	•	• •

* Having sulfate attack up to 600 mg/l
With protective measures according to DIN 1045-2

TECHNICAL DATA

TYPE		SP45	
Grain size		mm	0-4
Coating thickness		mm	20-60**
Amount of water	max.	%	12
Consumption (dry mortar) approx.		kg/(m ² · mm)	2.0
Fresh mortar raw density approx.		kg/m ³	2,200
Processing time approx.	+ 20 °C	min	45
Compressive strength*	1 d	N/mm ²	≥ 5
	7 d	N/mm ²	≥ 20
	28 d	N/mm ²	≥ 30
Bending tensile strength*	1 d	N/mm ²	≥ 2
	7 d	N/mm ²	≥ 4
	28 d	N/mm ²	≥ 6
Adhesive pull strength	7 d	N/mm ²	≥ 2
E-Module (static)	28 d	N/mm ²	≤ 25,000

* Testing of bending tensile and compressive strengths in accordance with DIN EN 196-1, sprayed samples, storage A

** permissible overall layer thickness acc. to ZTV-ING 50 mm

Note: All fresh and solid mortars are tested at 20 °C ± 2 °C. Higher or lower temperatures result in deviating properties of fresh respectively solid mortars and test results. Depending on the temperature, the consistency can be adapted with a slight reduction of the mixing water.

Storage: 12 months. Cool, dry, free from frost. Unopened in its original container.
Delivery form: 25-kg bag, Euro pallet 1,000 kg
Hazard class: Non-hazardous material, observe information on packaging.
GISCODE: ZP1

PAGEL PRODUCT COMPOSITION:

Cement: acc. to DIN EN 197-1
 Aggregate: acc. to DIN EN 12620
 Additions: acc. to DIN EN 450, general building inspection approval (abZ),
 DIN EN 13263 (fly ash, microsilica, etc.)

APPLICATION

SUBSTRATE PREPARATION:

Remove loose and unsound material such as cement slurry and dirt etc. using suitable methods, e.g. shot-blasting or similar until the underlying solid grain structure has been exposed.

A sufficient average tear strength (0.8 N/mm², KEW 0.5 N/mm²) must be ensured.

Prewetting:

Prewet the concrete substrate to capillary saturation for approx. 6-24 hours.

Reinforcing steel:

Blast all rust off exposed reinforcement bars until the underlying metal has been exposed acc. to purity grade SA 2 ½ in accordance with DIN EN ISO 12944-4.

CORROSION PROTECTION:

Apply two complete coats of **MS02** CORROSION PROTECTION to the derusted reinforcing steel using a brush.

BONDING LAYER:

No additional bonding layer is required for the application in the MAWO PAGEL DENSE PHASE WET SPRAYING APPLICATION METHOD.

MIXING:

The dry mortar is supplied ready to use and only needs to be mixed with water. Fill the specified amount of water apart from a residual amount into a clean and suitable mixing device (e.g. compulsory mixer). Add the dry mortar and mix for at least 3 minutes. Add the remaining water and mix for at least another 2 minutes until it forms a homogeneous mass.

APPLICATION:

SP45 in the MAWO-PAGEL DENSE PHASE WET SPRAYING APPLICATION METHOD:

The spraying of the mortar can be carried out with conventional screw feed pumps with a variable speed drive suitable for this application. Hold the nozzle preferably at a right angle with a distance of approx. 50 cm to the area to be coated. The first layer of spray mortar is sprayed on with a high compressed air flow to support the bonding layer. The application of the additional spray layers is carried out with a conveying speed correspondingly adapted to the position of the respective structural component and adapted compressed air support. The post processing and the smoothing of the surfaces can be carried out immediately after the completion of the spray works.

Air compressor: 5 m³/min, 5 bar
Temperature range: + 5 °C to + 35 °C
Mixing water: Drinking water quality

FOLLOW-UP TREATMENT:

Fresh mortar areas must be protected from premature water evaporation (from wind, draughts, direct exposure to sun, etc.) immediately on completion of the work for a period of 3-5 days.

Suitable curing methods:

Water spray, foil covers with jute sheets, thermofoils or moisture-retaining covering sheets, **01** EVAPORATION PROTECTION.

The technical data sheet must be observed when using **01** EVAPORATION PROTECTION.