



PAGEL®-SPCC-SPRAY-MORTAR

PROPERTIES

- is a cement based, hydraulic setting PCC spray mortar **for both wet and dry-spraying method**, each method tested with **three different spraying equipments** and **different lengths of hoses**
- meets the technical regulations of the **TL/TP-BE SPCC of ZTV-ING 90**
- is **plastic-modified and ready for use**. The mixing liquid consists just of water, the polymer-component is already included in the mortar as a powder
- also approved for the spraying **behind reinforcements**
- is used as a concrete substitute and repair mortar in different layer thicknesses in **one or multiple layers** even in bigger areas
- is suitable for the application on **both vertical and overhead surfaces** because of its high thixotropy
- **only small rebound**
- allows vapor diffusion, is **resistant to frost and salt** and reduces the penetration of CO₂
- has been proved as a concrete-repair-system for many years
- **easy to apply** and has a very small surface roughness. An additional smoothing is possible
- SP20 consists of the following products:
 - SP10 granulometry: 0–0.04 inch
 - SP10-PF granulometry: 0–0.04 inch, contains alkali-resistant plastic-fibres, a granulometry of 0–0.04 inch and is even better than SP20 and SP10 regarding crack prevention and stability

FIELDS OF APPLICATION

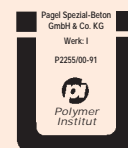
- **concrete substitute and repair mortar** in different layer thicknesses for bridges, tunnels and concrete buildings
- **vertical and overhead surfaces**
- **spraying** of deepenings, crusts and unevenness
- **wet and dry-spraying method**

SP40_{US}

SP20_{US}

Assigning to expositioncategory according to:
DIN 1045-2 / EN 206-1 / ZTV-LB 219 (SA-4)
PAGEL – SPCC-SPRAY-MORTAR

	XO 0	XC 1 2 3 4	XD 1 2 3	XS 1 2 3	XF 1 2 3 4	XA 1 2 3	XM 1 2 3
SP20	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •
SP40	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •



SP40_{US}

SP20_{US}

TECHNICAL DATA

TYPE		SP20	SP40
grain size	inch	0-0.08	0-0.16
layer thickness	wet spraying method (multiple layers)	up to 1.97	up to 3.94
	dry spraying method (multiple layers)	up to 3.15	up to 5.91
density of fresh mortar	lbs/ft ³	132.98	137.35
density of dry mortar	lbs/ft ³	131.1	131.1
yield	per 25-kg-Sack	l	app. 13
consumption	per 10 mm of layer thickness / m ²	lbs	44.09
spraying method		wet and dry	dry
quantity of water	%	12	12
compressive strength	24 h	PSI	≥ 2,900
	7 d	PSI	≥ 5,800
	28 d	PSI	≥ 7,250
bending strength	24 h	PSI	≥ 580
	7 d	PSI	≥ 870
	28 d	PSI	≥ 1,160
adhesive strength	7d	PSI	> 290

All test data are guide values only.

working temperature: min. 169 °F, max. + 1,183°F
supplied in: 25-kg-bags,
 1000-kg-big-bags
modul of Elasticity (static): 4,611,000 psi after 28 days

storage: 9 months (dry, in closed bags)
GISCODE: ZP1
hazard class: No dangerous substance.
 Follow safety data sheet

PROCESSING

SUBSOIL: Remove damaged concrete down to the firm subsoil or sandblast. Also remove cement slurry and weak layers. The subsoil must have a sufficient roughness. Descale the steel reinforcement and remove corrosion (degree of purification: Sa 2 1/2) by blasting (for example: high pressure / water-sand mixture) in accordance with ZTV-ING, section 2.6.2. Check the surface of the concrete for its adhesive strength (minimum 217.5 psi), depth of carbonisation and penetration by chloride. Approx. 24 hours before application prewater the surface to saturation until there is no more suction property and the surface is matt damp.

REINFORCEMENT: Protect descaled and blasted steel completely against corrosion with MS O2 (cement based) according to technical data sheet

BONDING AGENT: Not required.

COATING: WET-SPRAYING METHOD: The application of the mortar can be made with conventional spraying machines. SP 20 has been tested with the following equipments: Putzknecht S30/Estromat 404; P.F.T. (HM2/N2); MAI M 200/Stator MP2L.

The capacity is approx. 400 litres per hour. Maximum length of hoses: 50 m. Addition of water (50 - 60 l/h respectively 3 l per 25 kg-bag) and pressure of output (22-25 bar) are supervised by solenoid valve respectively manometer. The impact speed and by this the roughness of the surface are controlled at the nozzle by regulating the air-pressure

DRY-SPRAYING METHOD: SP 20 has been tested with the following equipments:
ALIVA 246; MADER WM-05/2; MEYCO-PICCOLA.

Use in principle a small rotor (for example 0,7 or 1 litre). The capacity is approx. 400 litres per hour. The substance pumped has been tested with lengths of hoses of 40 and 100 m, longer hoses are possible

MIXING: When mixing separately, use a compulsory type mixer and mix for 5 minutes

NOZZLES: Wet-spraying method: MAWO-nozzle;

Dry-spraying method: ALIVA-VULCOLAN-hose nozzle, flexible

Hold the nozzle as right-angled as possible at a distance of 19.69 (wet) to 39.37 (dry) inch to the spraying surface

COMPRESSOR: sufficient at a capacity of at least 1.77 ft³ of air per minute

OBSERVE: Depending on the layer-thickness the spray-mortar can be applied in one or multiple layers. Do not apply an additional layer while the layer below is not able to take a load yet

A **water-pressure-increasing pump** is required with the dry spraying method.

Request the help of our application experts already when planning the spraying operations and watch our application instructions for wet and dry spraying method.

SMOOTHENING: The roughness of the sprayed surface is low, that is why a smoothening is not required. If necessary the spray mortar can be smoothened easily and without pressure. Waiting period until smoothening: Wet spraying method: approx. 1-3 hours depending on temperature. Dry spraying method: approx. 15-30 minutes depending on temperature. Make sure that smoothening does not loosen the structure or cause displacement from the subsoil. Do not smoothen when applying only one layer.

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.

SURFACE PROTECTION: If the treated area is provided for an additional protection the consistence of the surface must allow the application of an even and closed coating; if needed to be levelled out with a fine PCC-screeding compound (for example MS O5-PAGEL-SCREEDING COMPOUND)

The final coating could be done for example with O2C PAGEL-CONCRETE PROTECTION SYSTEM (workable on matt damp surface and simultaneous a curing agent)

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