

## PAGEL®-ZEMENTLEIM PAGEL®-ZEMENTSUSPENSION

### PROPERTIES

- consists of only one component. It is ready for use and just mixed with water
- low viscosity and remains flowable for at least 90 minutes
- developed in accordance to the testing- and delivery standards of the **ZTV-RISS 93**
- offers a high depth of penetration with cracks wider than 1.0 mm (Z L10) and 0.2 mm (Z S10) and penetrates the cracks until their end
- used either for dry or moist or cracks containing water. There will be no sedimentation
- good corrosion protection to the reinforcing steel because of its alkalinity
- free of chlorides and other corrosion inducing materials
- shows a controlled expansion with a rigid bond to the sides of the crack
- economic and easy to use. All tools and accessories can be cleaned with water and used again

### FIELDS OF APPLICATION

- applied to cracks in concrete, masonry, solid stone walls, cavities, rock pockets, floor toppings, prefabricated concrete parts and others
- used for injecting a concrete surface area in order to strengthen it
- used for the closing, sealing and impregnation of cracks, cavities and porous, low strength concrete

ZL10

ZS10



ZL10

ZS10

TECHNICAL DATA			
TYPE	ZL10 ZS10		
Cement granulometry	µm	<40	<16
Blaine value	cm <sup>2</sup> /g	5400	16000
Components		1	1
Crack width	mm	>0,8	>0,2
Condition of crack		dry, wet, water-bearing	
Mixing time	min.	8	8
Potlife	min.	60	90
Required water	%	45	50
Density of fresh mortar	kg/dm <sup>3</sup>	1770	<1836
Density of dry mortar	kg/dm <sup>3</sup>	1650	1780
Consumption	g/l	1220	1180
Viscosity (Marsch-cone d = 4,76 mm)	10 min. sec.	72	68
	60 min. sec.	92	100
Characteristics	20 °C	(40 x 40 x 160 mm <sup>3</sup> )	
Compressive strength	2 d N/mm <sup>2</sup>	≥ 25	≥ 25
	7 d N/mm <sup>2</sup>	≥ 35	≥ 35
	28 d N/mm <sup>2</sup>	≥ 40	≥ 40
All test data are values derived.			

**sealing:** PU1 PAGEL-ADHESIVE RESIN  
**shelf-life:** 9 months  
**storage:** Dry, in closed bags, > 10 °C  
**hazard class:** not a dangerous good  
**containers:** 10 kg bag

## PROCESSING

Ascertain the structure of the cracks: measure the width and length of the cracks and find out, if there are changes. Make a documentation with sketches. Find out those cracks, that can be filled solidly.

Remove all loose or unsound material from the sides of the cracks in a minimum range of 5 cm. Prepare the subsoil in accordance to ZTV-ING and clean it with a tough wire brush or a comparable tool.

**ADHESIVE PACKER:** Use preferably adhesive packers for cracks with a width of less than 1 mm: mark the injection points by driving a greasy nail, then fix the adhesive packer at its total bottom surface with PU1 PAGEL-ADHESIVE RESIN.

**DRILL PACKER:** Drill the hole (Ø 13 or 18 mm) with an angle of 45°–60° that way, that the drilling centre line meets the crack at half the strength of the con-

struction part. Clean the hole and remove the drilling dust before placing the packer. Preferably drill the holes with the core drilling method.

Fix an adhesive tape at both sides of the crack in a distance of about 5 cm. Apply PU1 PAGEL-ADHESIVE RESIN in a sufficient layer thickness (approx. 3 mm) to the dry subsoil beside and over the crack approx. 24 hours before the injection. Seal also the connection to the filling tubes. Use SP20 PAGEL-SPRAY MORTAR for sealing cavities and rock pockets. Seal cracks in masonry with R1/O5 PAGEL SCREEDING COMPOUND perhaps using the spraying method.

When the sealing has set (after approx. 24 hours at minimum 8 °C) place a gate piece on the packer to avoid reverse flow of the material. Check the function of the whole system by the use of water. Prewater the sides of the crack at the same time.

Fill the complete bag of ZL10/ZS10 under slow mixing into the measured quantity of water and mix the material with a high speed mixer (3000 rpm) for 8–10 min. until it is homogenous. Preferably use a metallic mixing pot. Use a drilling machine with a resin whisk when mixing small quantities. Quantities of more than 10 kg require a mixing station with a dissolver disk. Pour the ready injection grout through a fine sieve into an other pot.

ZL10/ZS10 can be injected in either low- or high pressure method (maximum pressure of the PAGEL pump: 30 bar; maximum pressure of the DESOI membrane pump: 60 bar).

Always inject vertical cracks from the bottom to the top. The pumping hose is connected by a connecting piece to the gate piece of the filling tube. Usually the injection in concrete is made with a pressure of 2–3 bar, when the crack sides are wet or 3–6 bar, when they are dry. As soon as the injection grout appears at the next packer the injection is continued from that point. We recommend an additional injection after 60–90 min. (depending on the temperature of the construction part).

Occuring leakages in the sealing can be sealed with B1 PAGEL-QUICK REPAIR MORTAR or call for additional advice.

Clean all working equipment and tools as soon as possible with water. Remove filling tubes and sealing after approx. 48 hours. Smoothen the surface of the construction part with R1/O5 PAGEL-SCREEDING COMPOUND.

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](http://www.pagel.com).



# PAGEL®

SPEZIAL-BETON GMBH & CO.KG

WOLFSBANKRING 9 · D-45355 ESSEN  
 TEL. +49 (0)2 01-6 85 04-0 · FAX +49 (0)2 01-6 85 04-31  
 INTERNET: WWW.PAGEL.COM · E-MAIL: INFO@PAGEL.COM