

# PAGEL®-JOINT FILLER GROUT

VS®-P

## PROPERTIES

- Non-shrinking joint filler grout, with a gel-like consistency, extremely easy to shape, for the automated filling of joints between pre-fabricated parts.
- Certified to fire protection class A1 as specified by EN 13501 and DIN 4102
- Easy to mix for application using twin-shaft manual mixers, compulsory mixers and adequate continuous mixers that employ the new "sump mixing principle".
- Can be pumped using conventional spiral pumps and at delivery rates specifically adapted to the relevant joint sections
- Develops high early and final strengths
- Expands in a controlled way and consequently forms optimum shear joints within the filled joint sections
- Frost and deicing-salt resistant
- Waterproof
- Highly resistant to mineral oils
- Low water/cement ratio
- Externally tested and factory quality controlled in compliance with DAfStb VeBMR - Rili according to the DIBt's general building design specifications Z-21.8-1792 and Z-21.8-1847
- Approved under the building authority's regulations within the scope of **PFEIFER-VS®- Rail Systems:**  
**BZ250: Approval number Z-21.8-1792**  
**TZ100: Approval number Z-21.8-1847**

Classification according to DAfStb VeBMR Rili	
VS®-P PAGEL®-JOINT FILLER GROUT	
Flowability class	./.
Shrinkage class	SKVMII
Early strength class	A
Compressive strength class	C55/67

## FIELDS OF APPLICATION

- Joint filler grout used in the building authority approved PFEIFER-VS®Rail Systems BZ250 and TZ100
- For filling vertical and horizontal joints between prefabricated reinforced concrete parts
- For filling building joints, groves and hollow spaces

Exposition category according to:  
 DIN 1045-2 and EN 206-1  
**PAGEL – JOINT FILLER GROUT**

	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
VS®-P	•	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •	• • • • •



TECHNICAL DATA			
TYPE	VS®-P		
Size	mm	0-2	
Coating thickness*	mm	10-40	
Amount of water	%	13	
Consumption	kg/dm <sup>3</sup>	2	
Processing time (20 °C)	min.	app. 60	
Slump DIN 18555	mm	app. 170	
Slump inspected on site**	mm	120-160	
Expansion	24 h	Vol. %	+ 0,3
Compressive strength***	1 d	N/mm <sup>2</sup>	≥ 40
	7 d	N/mm <sup>2</sup>	≥ 60
	28 d	N/mm <sup>2</sup>	≥ 70
Bending strength	1 d	N/mm <sup>2</sup>	≥ 4
	7 d	N/mm <sup>2</sup>	≥ 7
	28 d	N/mm <sup>2</sup>	≥ 10

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

**TEMPERATURE LIMIT:** + 5 to +35°

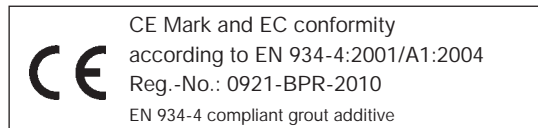
- \* Not relevant to the filling of the PFEIFER VS® Rail System prefabricated part joint sections
- \*\* Slump inspected on site: Alternatively, use a PVC pipe with a 70mm internal diameter, 100mm high, coated with a release agent to trowel onto a smooth, wetted plate, and measure
- \*\*\* fc, cube, established using a prism, incl. correction factor 0.85

**Storage:** Can be stored for up to 9 months in a dry place and in sealed bags

**Packaging:** 25 kg bag

**Hazard class:** Non-hazardous material  
Please read instructions on packaging

**Gis Code:** ZP1



### APPLICATION

#### SUBSTRATE/CONTACT AREAS

**CONCRETE BASE:** Clean thoroughly, remove all loose and unsound material, as well as any cement slurry, oil, grease, etc. using suitable equipment and procedures until the grain structure that will be capable of bearing the grout has been exposed; the base must have a sufficiently high pull-off strength ( $f_M \geq 1.5 \text{ N/mm}^2$ ). Wet surface to capillary saturation (e.g. using a mist spray nozzle, crop sprayer or wet sponge).

**PFEIFER-VS®- RAIL SYSTEMS:** Remove the covering tape before assembly and move the cable loops into their intended position. Where required, remove any loose and/or objects or materials (grease, oil, etc) that could impede adhesion. Once the prefabricated concrete parts have been positioned inside the structure, insert a  $\varnothing$  12mm concrete reinforcing rod into the entire joint where it overlaps with other joints by threading it through the loops in accordance with the building authority's regulations. The insides of the VS®-Rail sections do not need to be pre-wetted.

**FORMWORK/SEALING:** Fully seal one side of the prefabricated parts' joints using a foam cord, rubber hose or, alternatively, VS®-P PAGEL JOINT FILLER GROUT. Once the joint has been sealed with VS®-P PAGEL JOINT FILLER GROUT, leave to set. Once set, start filling the remainder of the joint starting from the opposite side, working from the bottom to the top, with grout.

**MIXING:** The grout is supplied ready for use and only needs to be mixed with water. Pour all of the water with the exception of a small residual amount into the compulsory mixer, add the dry grout and mix for approx. 3 minutes. Add the remaining water and mix for another 2 minutes. Start using the grout to fill the joints immediately after mixing.

**FILLING:** VS®-P PAGEL JOINT FILLER GROUT has been designed for being filled into joints through the use of a suitable spiral pump with a control gear for adjusting the pump's delivery rate to the prefabricated part joint's section. The joint nozzle (e.g. VS®-P PAGEL JOINT NOZZLE) should be fitted with a remote control for the delivery pump. The joint section should be filled from the bottom to the top by keeping the nozzle slightly immersed in the grout that has already been injected into the joint, as a result of which the new grout being injected into the joint section will be pushed upwards without the inclusion of any air. When doing so, the nozzle must be aimed alternately at both of the joint's outer sides in order to make sure that it is fully filled.

Compatible grout pumps: Putzmeister Strobl Strobot 406S; PFT N2V; Putzmeister S3V, Putzmeister S5; M-Tec Speedy P15V (only 380V); Mader Variojet FU; Mader WM Mini.

Compatible mixing and delivery pump: M-TEC Duo 2000.

**FINISHING:** Remove any seals that may have been applied immediately after filling the joint to keep for future use and smoothen the joint grout so as to make it flush with the prefabricated part's surface.

**FINISHING TREATMENT:** Depending on weather conditions, it may be necessary to protect the joints from water evaporation or excessive erosion. The above must be performed correspondingly in compliance with the specifications detailed under DIN 1045-3:2008-08, section 8.7.

All of the information, technical advice and recommendations provided in this brochure are based on comprehensive research and practical experience. However, they are - including with regard to third-party property rights - for information only and do not release customers from their responsibility to check whether the above products and procedures are suitable for their intended use. The above test data has been derived under standard climatic conditions and in accordance with DIN 50014. These values are average values and analyses, and product values may slightly differ upon delivery. Any recommendations contrary to those stated in this brochure require our written consent. The planner and processing company must always obtain information on the latest state of the art and relevant valid edition of this brochure. Please do not hesitate to contact our customer service department at any time and many thanks for your interest. This brochure makes all previously published product information null and void. Please visit our website for the latest valid version of this brochure at [www.pagel.com](http://www.pagel.com).



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