



## PAGEL® PRECISION NON-SHRINK GROUT



### PROPERTIES

- **V1\*/50** 3/4" – 4"/ 20 – 100 mm grouting height  
**V1\*/10** < 13/16"/ < 30 mm grouting height  
**V1\*/160** > 4"/ > 100 mm grouting height
- **high flowability**, also after 90 minutes
- **cement-based and chloride-free**
- **controlled and even expansion** with a rigid bond between concrete foundation and machine base plate
- **high early and final strength**
- **low modulus of elasticity** in connection with high bending strength
- **resistant to cracks** even when having a low w/c-value (0.36-0.38)
- **resistant to freeze/thaw cycles**, waterproof, resistant to oil and petrol
- **pumpable** and easy to pour – even during low temperatures
- **externally tested** and factory quality control according to the "Merkblatt für Vergussmörtel" ("Leaflet for Grouts") (DBV)
- permission for use in **drinking water areas**
- "Allgemeine bauaufsichtliche Zulassung" (General Constructional Permission) Mo. PA VII-1/419 (DIBt) for the Additive-Concentrate

### FIELDS OF APPLICATION

- **universal-grout** for precision machines of any kind
- **turbines**, generators, compressors, diesel engines and other power equipment operating under heavy vibration
- **anchor screws**, levelling units and sole plates
- **steel and concrete columns**
- **prefabricated concrete units** and structural steelworks
- **bridge bearings** and construction joints
- **crane rails** and radio telescopes
- **steel and blast-furnace plants** as well as mines
- **paper plants**, chemical plants and refineries

Assigning to expositioncategory according to:  
DIN 1045-2 / EN 206-1  
PAGEL – GROUT

	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
V 1*/10	•	• • • •	• • •	• • • •	• • • • •	• •	• •
V 1*/50	•	• • • •	• • •	• • • •	• • • • •	• •	• •
V 1*/160	•	• • • •	• • •	• • • •	• • • • •	• •	• •

V1\*/50<sup>U</sup><sub>S</sub>

V1\*/10<sup>U</sup><sub>S</sub>

V1\*/160<sup>U</sup><sub>S</sub>



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V1®/50<sub>US</sub>

V1®/10<sub>US</sub>

V1®/160<sub>US</sub>

## TECHNICAL DATA

TYPE			V1®/10	V1®/50	V1®/160
<b>Aggregate Size</b>	inch/mm		0 – 1/32" / 0 – 1	0 – 3/16" / 0 – 5	0 – 5/8" / 0 – 16
<b>Grouting height</b>	inch/mm		< 13/16" / 5–30	3/4" – 4" / 20 – 120	> 4" / > 100
<b>Amount of water</b>	%		12 – 13	11 – 13	10 – 11
	Quarts		3 1/4 – 3 1/2	3 – 3 1/2	2 5/8 – 3
	Liters		3 – 3.25	2.75 – 3.25	2.5 – 2.75
<b>Material needed</b>	lbs/ft³		125	133	131
<b>Density of freshly mixed mortar</b>	lbs/ft³		142	144	145
<b>Workability</b>	at 70°F	Min.	> 90	60	> 90
<b>Flowability</b> (channel)	immediately	inch (cm)	27.56 (70)	26 (65)	–
	60 Min.	inch (cm)	26.77 (68)	24 (60)	–
<b>measure of extension</b> (DIN 1048)	immediately	inch (cm)	–	> 11.81 (30)	27.56 (70)
	60 Min.	inch (cm)	–	> 11.81 (30)	–
<b>Expansion</b>	24 h	Vol. %	+ 0.5	+ 1.0	+ 1.0
	28 d	Vol. %	+ 0.5	+ 1.0	+ 1.0
<b>Compressive strength</b> V1/10, V1/50: 1.57 x 1.57 x 6.30 inch V1/160: 3.94 x 3.94 x 3.94 inch	24 h	PSI (MPA)	6,235 (43)	6,772 (46.7)	7,395 (51)
	7 d	PSI (MPA)	8,700 (60)	9,324 (64.3)	10,150 (70)
	28 d	PSI (MPA)	12,615 (87)	11,963 (82.5)	13,195 (91)
	90 d	PSI (MPA)	14,500 (100)	–	14,210 (98)
<b>Bending strength</b> 1.57 x 1.57 x 6.3 inch	24 h	PSI (MPA)	870 (6)	856 (7)	1,015 (7)
	7 d	PSI (MPA)	1,160 (8)	1,349 (8)	1,160 (8)
	28 d	PSI (MPA)	1,450 (10)	1,450 (10)	1,450 (10)
	90 d	PSI (MPA)	1,450 (10)	1,450 (10)	1,450 (10)
<b>Modulus of elasticity</b>	7d	PSI (MPA)	4.901 x 10 <sup>6</sup> (33,800)	4.785 x 10 <sup>6</sup> (33,000)	5.003 x 10 <sup>6</sup> (34,500)
	90 d	PSI (MPA)	5.771 x 10 <sup>6</sup> (39,800)	5.699 x 10 <sup>6</sup> (39,300)	5.815 x 10 <sup>6</sup> (40,100)

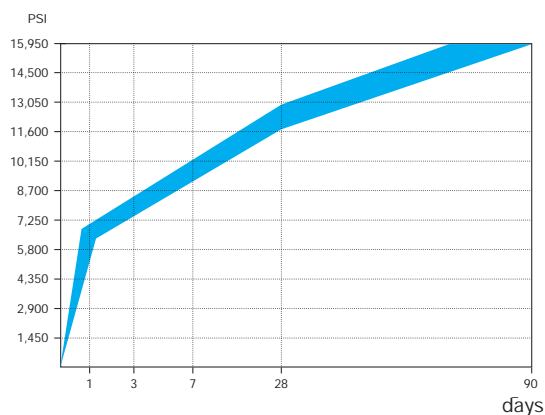
All test data are values derived under normal climate conditions. 23/50-2

**Additive :** General Construction Permission  
Nr. Z-3.21-1461  
Corresponding Certificate Nr. 219000  
**Storage:** 12 months in sealed, dry bag  
**Packaging:** 25-kg-bag / 55 lbs/bag  
**Yield:** 0.41 ft³/bag  
**Hazard class:** no dangerous substance, observe  
safety data sheet (MSDS)  
**GISCODE:** ZP1

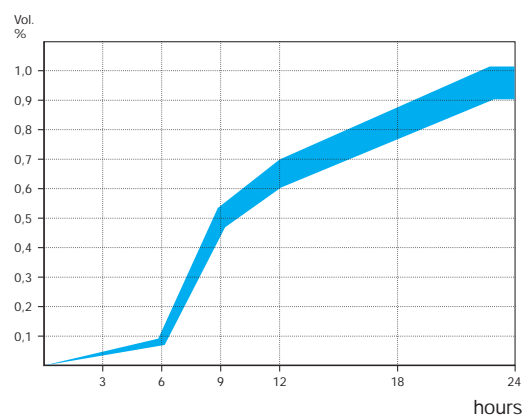


CE-Mark and EG conformity in accordance  
to EN 934-4:2002:02  
Reg.-No.: 0921-BPR-2010  
Additive for concentrate in accordance EN 934-4:T2

Development of compressive strength (V1/50):



Development of expansion:



## APPLICATION

**SURFACE:** Clean thoroughly, free of loose and unsound material, remove any cement slurry by means of hydraulic water-blasting or similar till carrying capacity of grain structure is reached. Sufficient adhesion must be granted (i. m. > 218 PSI). Prior to grouting, the surface must be wetted continuously for approx. 6 hours till saturation.

**FORMWORK:** Must be of rigid construction, with sand or dry mortar being placed around the concrete base carefully to prevent leakage.

**MIXING:** The grout is ready for use, only water is to be added. Measure out the correct quantity of water and fill two thirds of this into a concrete mixer, add the dry mortar and mix for about 3 minutes. Then fill in the remaining water and mix for another 2 minutes. Grouting then should take place immediately.

**GROUTING:** Place the mixed grout from one side or corner only in one continuous pour. When grouting large areas we suggest to pour starting from the middle – using a pipe or funnel. On machine installations fill the anchor bolt pockets first (up to approximately top of anchor bolt pockets) and then the underside of the machine. Working time: approx. 60 minutes.

**CAUTION:** Open areas must be protected against wind, drafts and premature evaporation by using for example plastic foil or O1 PAGEL-CURING AGENT.

**Grouting shoulders:** Heights and shoulders around base plates must not exceed 2 inches or 50 mm.

**Temperature:** Application between 41°F and 95°F (5°-35°C), low temperature working conditions retard the strength development and reduce the flowability while high temperatures accelerate the same.

**Non-Iron-Metals:** Cement as well as all cement-bound building materials may under certain circumstances cause a coming-off of non-iron-metals in the application area (for example aluminium, copper, zinc) please ask for our technical service.

V1®/50<sup>US</sup>

V1®/10<sup>US</sup>

V1®/160<sup>US</sup>

## DIN 1045 AND PAGEL-GROUT

Having **prefabricated units grout** is being used according to **DIN 1045** (6.7.1) for joints, between components and overlying.

PAGEL-GROUT belongs according to DIN 1045 to the subject heading **cement mortar** (2.1.3.1) and is in need of a General Construction Permission with a Corresponding Certificate for the additives.

PAGEL-CONCRETE-GROUT belongs to the subject heading **concrete** (B1 and BII) and meets most of the demands of a **concrete with special characteristics** (6.5.7) (resistant to water, highly resistant to frost, highly resistant to chemical attacks).

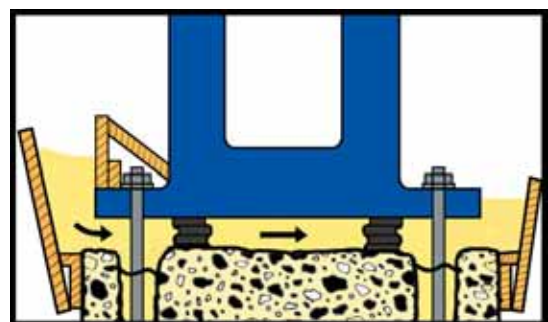
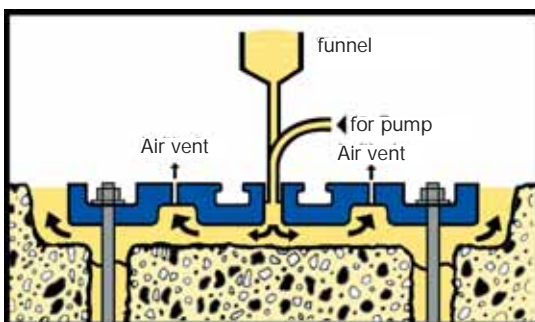
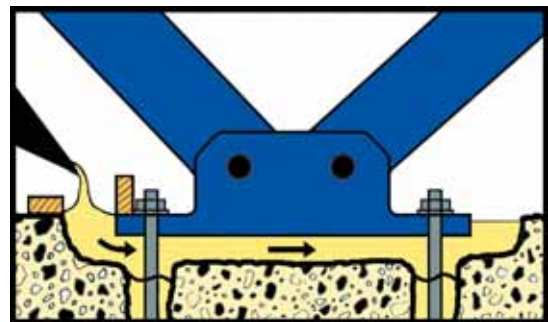
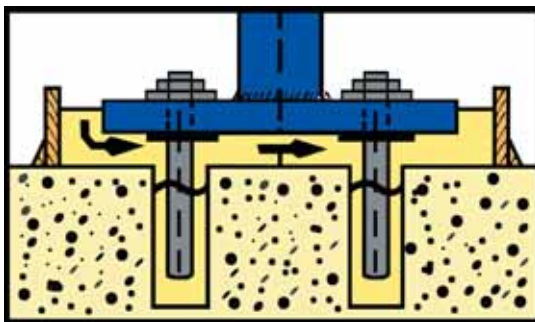
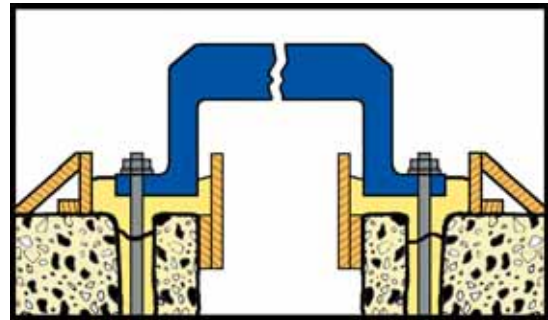
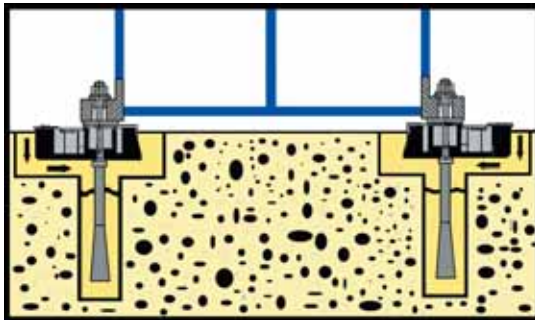
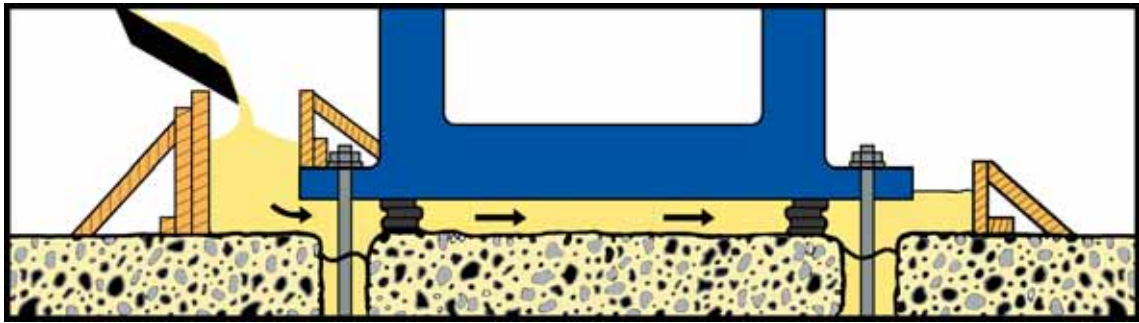
**Soucre material for PAGEL-GROUT:**

Cement	according to DIN 1164
Surcharge:	according to DIN 4226 (eFT)
Additional material:	General Construction Permission.
Additives:	General Construction Permission.

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