

## VPRESS

### General Building Authority Test Certificate General Building Inspectorate Approval



#### Properties:

VPRESS is a single-channel injection hose that is used as regular joint filling for the sealing of construction and butt joints in in civil engineering, structural engineering as well as tunneling.

It can be used for multi-grouting in conjunction with the injection materials that have been tested for applicability.

VPRESS consists of a low-foamed PVC jacket with a fluted surface.

The injection material is applied into the joint to be sealed via small slots in the hose jacket. Positioning and shape of the slots prevent cement slurry intruding into the injection channel.

Beside the standard type of VPRESS (inner diameter of 6mm), which can be grouted with microfine-cement, acrylate gel or polyurethane resin, one more special tunneling type is available. This one has an inner diameter of 10 mm, which can be additionally (beside the above mentioned materials) grouted with injection mortar (see also test certificates).

#### Suitable injection products:

	VPRESS inner diameter 6 mm	Overlength up to 30 m	VPRESS inner diameter 10 mm	Overlength up to 30 m
Injection product	microfine-cement <i>F8000</i>	x	Microfine-cement <i>F8000</i>	x
	acrylate gel <i>RUBBERTITE/POLINIT</i>	x	acrylate gel <i>RUBBERTITE/POLINIT</i>	x
	polyurethane resin <i>PUR-O-CRACK</i>	x	polyurethane resin <i>PUR-O-CRACK</i>	x
			injection cement <i>F9200 / F9300*</i>	x

\* Injection cement *F9300* only have been tested for overlength up to 15 m

#### Technical data:

Profile	round inner channel; ribbed outer sheath
Material basis	low-foamed PVC
Outer diameter	13 mm or 16 mm
Inner diameter	6 mm or 10 mm
Colour	blue

## Processing:

### Packing

VPRESS is normally cut into single lengths of 8 to max. 10 m and laid according to the geometry of the structural component to be sealed. The manufacturer should be contacted if the particular construction should require longer hose sections.

The hose sections are delivered with the accessory grouting end pieces (air-bleed hose) attached to both ends. Connecting VPRESS and the air-bleed hose is carried out simply and without the need of tools by screwing the screw-in spouts into the hoses manually. Finally the hose ends are sealed with plugs.

### Subsurface requirements

VPRESS is fixed to the level concrete subsurface that has been cleared of any loose matter and cement slurry. Any ice films must be melted prior to laying, any ponding water that has collected must be blown off the subsurface (oil-free compressed air).

The subsurface must be firm, there must be no sharp-edged differences in height (landing). The concrete on both sides of the joint have a high water-impermeability.

If VPRESS is fixed to metal or PVC waterstops, it should be ensured that the hose is firmly attached and the fixing distance is maximum 15 cm.

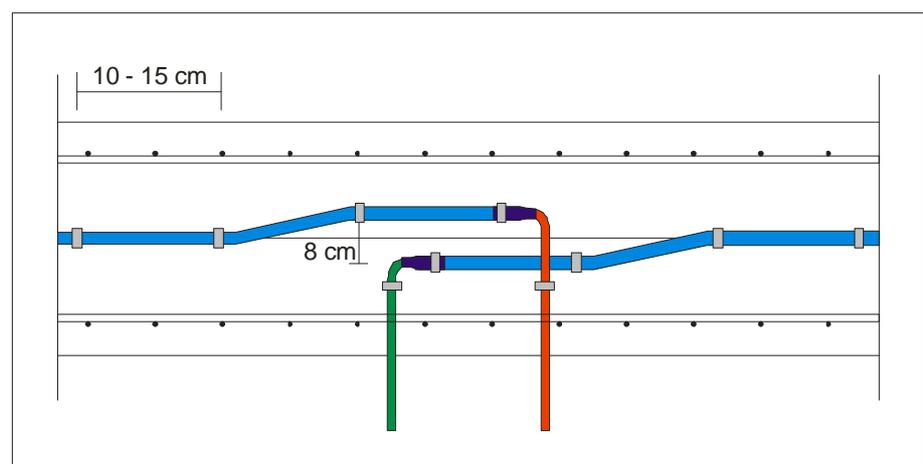
### Fixation

VPRESS is fixed using of plastic clips or metal nail clamps. The KSC / plastic clip is driven into bore holes of 8 mm diameter.

The most simple fixing method is to use metal clamps that can be nailed or closed.

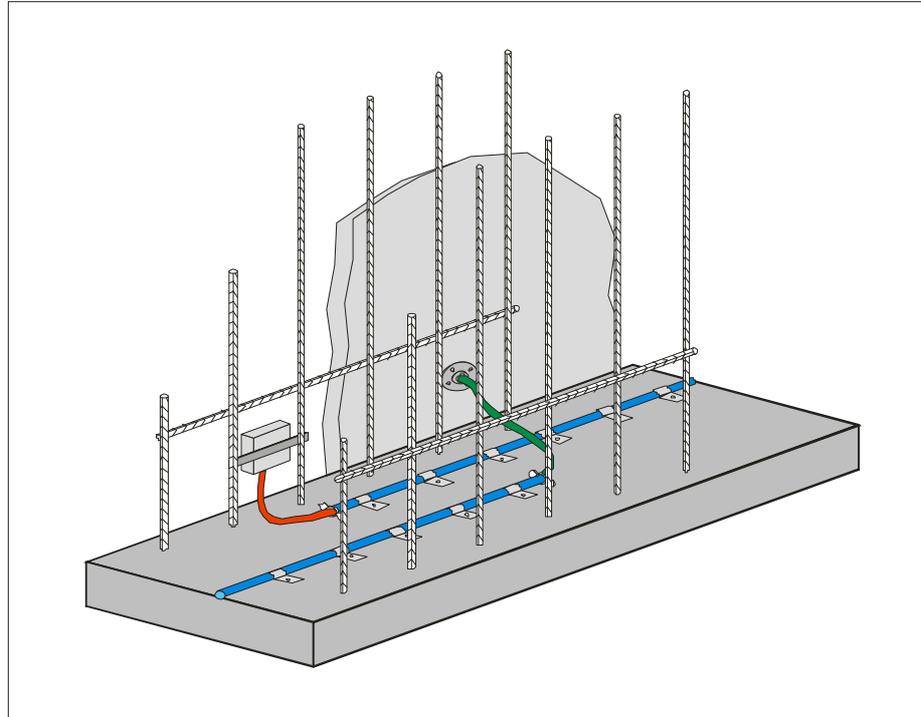
The fixing points should be spaced every 10 cm as far as possible. Spacing between the fixing points must not exceed 15 cm to ensure that the injection hose is retained sufficiently for concreting.

Contact between the individual hose sections must be avoided in order to prevent the hoses from grouting each other.



As a rule the air-bleed ends are led out of the construction at a right angle. They may be connected in protective boxes that are fixed to the reinforcement.

Or they are fixed to the formwork panel by means of spigots. Permeability, accessibility, markings, if applicable, and the protected position of the hose ends (air-bleed ends) must be safeguarded for subsequent grouting.



## Injection

Accessible joint sections must be checked for imperfections, rock pockets etc. prior to injecting the hose sections. Detected imperfections must be professionally sealed prior to injection. Injection work should be carried out at the earliest after the hydration process has abated and with the construction joint under full stress.

Injection work on connected structural components is carried out in sections, beginning on one side. Horizontally positioned hoses are injected from the bottom up.

To bleed the injection hose one side of the hose is first filled with injection material until the material pours out at the other end free of bubbles. Then this hose end is sealed. After the hose end is sealed, the injection pressure is slowly increased to enable the injection material to pour out of the slots evenly into the joint.

If *RUBBERTITE* / *POLINIT* acrylate gel, microfine-cement *F8000* or *F9200*/*F9300* injection cement is used, multi-grouting is possible if the hose is sufficiently flushed with water immediately after injection. Pressure-less rinsing through of the injection hose (the grouting end sealed previously must now be opened) must be carried out before the pot life of the injection material runs out. The information required for this can be found in the data sheets for the individual injection materials.

The *MINIBOOSTER 5U* 2-component injection pump, that is equipped with an external flushing pump, is recommended for injecting acrylate gel.

Further details on injection can be found in the DBV data sheet: Grouted injection hoses for construction joints, dated June 1996.

The use of the injection hose is approved for grouting with the injection materials listed below:

Microfine-cement	<i>F8000</i>
Injection cement	<i>F9200, F9300</i>
Acrylate gel	<i>RUBBERTITE/POLINIT</i>
Polyurethane resin	<i>PUR-O-CRACK</i>

**Safety information:**

No special measures required

**Packaging:**

100 m on cardboard spool

**Storage:**

Shelf life at least 24 month in original packaging when stored in dry conditions between 15-25°C, protected from heat, frost and direct sunlight.

After the expiration the use of the product is generally not recommended, unless an approval has been provided by TPH. This approval can only be obtained by the quality assurance department of TPH releasing the material after verification of main properties being within specification.

**Disposal:**

*Recommendation:*

Small quantities of product residues can be disposed of as normal domestic waste. Dispose of bigger quantities must be effected in accordance with the corresponding local regulations.

**Test certificates:**

General Building Authority Test Certificate for the injection hose system *VPRESS* with injection materials *F8000, F9200* and *PUR-O-CRACK*; MFPA Leipzig 2005

Test of multi injectable injection hose *VPRESS* together with the injection products *F8000* and *RUBBERTITE / POLINIT*; MFPA Leipzig 2009

Injection capability of a 30 m length segment of single-cannel, multi injectable injection hose *VPRESS* 10 mm in combination with *F9200* injection cement; MFPA Leipzig 2010

Injection capability of a 30 m length segment of single-cannel, multi injectable injection hose *VPRESS* 10 mm in combination with microfine-cement, acrylate gel and polyurethane resin; MFPA Leipzig 2010

Injection capability of *VPRESS* injection hose together with *F9200* injection cement; MFPA Leipzig 2012

Injection capability of a 30 m length segment of single-cannel, multi injectable injection hose *VPRESS* in combination with *F8000, RUBBERTITE/POLINIT* and *PUR-O-CRACK*; MFPA Leipzig 2013

General Building Inspectorate Approval for "*PUR-O-CRACK* and *VPRESS* injection system to the use within facilities for storage, filling and transferring of waterhazardous substances; DIBt Berlin 2015



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