



Complete assortment of grouting equipment, packers, pumps and accessories



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GROUTING PACKERS

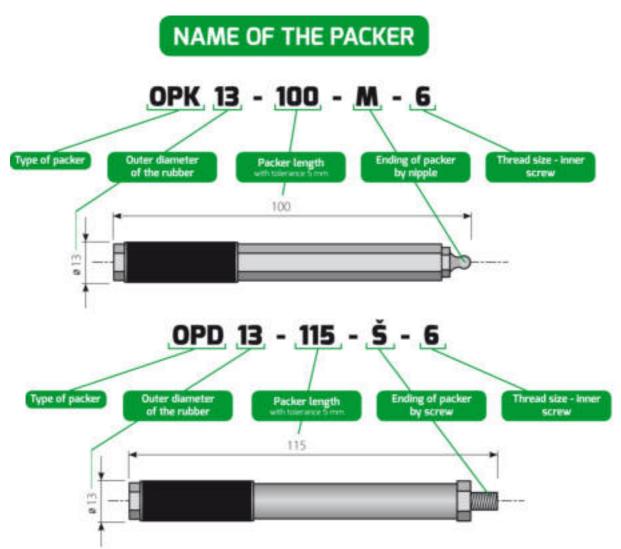
Grouting packers are designed for low-pressure and high-pressure groutings of special materials into the building constructions. Our company offers wide range of grouting packers devided into several categories by construction and material. We standardly produce grouting packers into boreholes of diameter 6-20 mm. For particular dimensions of packers, see table of "Standardly offered variations of packers".

It is possible to produce packer of various measures according to the customer's request.

Assortment division of standard injection packers according to the construction and material:

- OPK steel packers kombi
- **OPD** steel packers double-casing
- APD aluminum packers double-casing
- **SPK** alloy packers kombi
- INJECTOR plastic injectors lamellar or conical

Each injection packer has its own specific name, which consists of designation of the packer according to the type of construction and material (OPK, OPD,...), diameter of sealing rubber, length of packer, end type (screw, nipple) and thread of the screw:



Behind this specific name, in brackets, there can be stated letter specification of variants of individual packers. (See the *Table of "Standardly offered variations of packers"* on page 12).



Grouting steel packers kombi – OPK

Packer OPK is two-part steel packer consisting of head of the packer and body of the packer. Head of packer is composed of screw and sealing rubber, body of packer is composed of nut and nipple. Packer can be equipped with ball head or flat-head round nipple. Assembling and disassembling of the packer is very easy due to its construction. Disassembling of the packer is done by screwing off the nut piece and pulling out of the hole.

Packers OPK are made in the sealing rubber diameters 8-17 mm, lengths 70-500 mm and in inner screw versions M5, M6 and M8.



ОРК

- coupler 4-jaws

Packer variation with **ball** nipple. Packer connection onto hose of the grouting pump:



OPK – P6, P8, P10

Packer varation with **flat** round nipple. Packer connection onto hose of the grouting pump: - hook-on-coupler

(On request, this packer could be equipped with **small flat-head nipple mP** with connection onto hook-on-coupler 10 mm)

The OPK packer is also available in versions with a steel screw ended with a stop nut or with a forged screw with a collar, steel or aluminum nut, double rubber or with various protruding rubbers, standard round nipple or flat-head round nipple. These could be combined diversely according to the customer's needs (see the table *"Standardly offered variations of packers"*.)

Maximally allowed working pressures:

OPK version M5: 15 MPa (150 bars) OPK version M6 and M8: 25 MPa (250 bars)



Grouting steel packer with double-casing - OPD

Packer OPD is steel packer consisting of inner long screw with sealing rubber and distance tube with nut. Packer might be ended with a screw with outer thread or nipple ball-head or flat-head round nipple. Disassembling of the packer is done by cutting the protruding part of the packer off or by loosening the nut by the distance tube and removing the whole packer out of the bore hole. Packers OPD are made in the sealing rubber diameters 8-32 mm, lengths 80-500 mm and inner screw versions M5, M6, M8 and M10.



OPD – Š

version of the packer ended by **screw**. Packer connection onto the grouting hose of the grouting pump: - individual, according to the equipment of the customer



OPD – M

Version of the packer with **ball-head**

nipple.

Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws



OPD – P6, P8, P10

Version of the packer with *flat-head*

nipple.

Packer connection onto the grouting hose of the grouting pump: - hook-on-coupler 16 mm

Maximally allowed working pressures:

OPD version M5: 15 MPa (150 bars) OPD version M6, M8, M10: 25 MPa (250 bars)



Grouting aluminum packers with double-casing – APD

Packer APD is aluminum non-corrosive packer consisting of inner long screw with sealing rubber and distance tube with nut. Packer is ended with a nipple. In the body of the packer there is also a special recess which enables disassembling of the packer by easy breaking off with a hit of the hammer. Packers APD are made in sealing rubber diameter 13-32 mm, lengths 110-500 mm and in screw versions M8 and M10.



APD – M

Version of the packer with **ball-head** nipple. Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws



APD – P8

Version of the packer with **flat-head** nipple. Packer connection onto the grouting hose of the grouting pump: - hook-on-coupler 16 mm



APD – P10

Version of the packer with **flat-head** nipple and inner screw with thread M10x1.

Packer connection onto the grouting hose of the grouting pump: - hook-on-coupler

Maximally allowed working pressures:

APD version M8: 25 MPa (250 bars) APD version M10: 25 MPa (250 bars)



Grouting alloy packers kombi – SPK

SPK is alloy packer consisting of the screw with sealing rubber in the head of the packer and of the nut with a nipple in the top part of the packer. Assembling and disassembling of the packer is thanks to its construction very easy. Disassembling of the packer is done by unscrewing the nut and pulling the packer out from the hole. Packer has a reverse valve placed in the bottom part of the packer with rubber and it is possible to disassemble it straight after the grouting (one-day packer). Nipple of the packer is without the reverse valve (without ball). Packers SPK are made in sealing rubber diameters 6-8 mm, lengths 45-55 mm and in inner screw versions M4, M5.



SPK 8-55-M-5 Packer with **ball-head** nipple.

Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws

SPK 6-45-M-4

Packer into **tile joints** (ø 6 mm).

Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws

Maximally allowed working pressures:

SPK 6-45-M-4:	up to 14,5 MPa (145 bars)
SPK 8-55-M-5:	up to 15,0 MPa (150 bars)



Plastic strike LAMELLAR INJECTORS 12 mm

Plastic injectors are used for no-pressure, low-pressure and high-pressure waterproof groutings. They are made in the versions with reverse valve (ball), or without ball – BK. The length of the injector is 70 mm and they are designed for bore holes of diameter 12 mm.



Maximally allowed working pressures:

Injector lamellar 12 mm

Injector version with ball

Injector connection onto the grouting hose of the grouting pump: - coupler 4-jaws

Injector lamellar 12 mm (BK)

Injector version **without ball**

(low-pressure injector from 0,1 bar). Injector connection onto the grouting hose of the grouting pump: - coupler 4-jaws

Injector lamellar 12 mm SK,BK: <u>10 MPa (100 bars)</u>

Plastic strike CONICAL INJECTORS 10 mm

Plastic conical injectors are being used for low-pressure and high-pressure hydroizolation groutings. They are produced in versions with ball-head nipple or with flat-head nipple (P6). Injectors are intented into a solid substrate – for example into the concrete.



Maximally allowed working pressures:

Injector conical 10 mm

Injector version with **ball-head** nipple Injector connection onto the grouting hose of the grouting pump: - coupler 4-jaws

Injector conical 10 mm (P6)

Injector version with *flat-head* nipple

Packer connection onto the grouting hose of the grouting pump: - hook-on-coupler 16 mm

Injector conical:

25 MPa (250 bars)

Injector conical 10 mm (DV)

Injector version with ball-head nipple and the reverse brass valve (one-day injector) Injector connection onto the grouting hose of the grouting pump:

25 MPa (250 bars)

- coupler 4-jaws

Maximally allowed working pressures: Injector conical:

Plastic strike LAMELLAR INJECTORS 18 mm

They are used for no-pressure or low-pressure groutings (cements, micro-cements, liquids). They are equipped with a reverse valve. Length of the injector is 115 mm, internal diameter 7,5 mm. Injector is designed for bore holes of diameter 18 mm.

Injector connection onto the grouting hose of the grouting pump: - quick coupler or coupler

(see page 24)

Reccomended pressure: 0,1 - 40 Bar







Special types of packers – ONE-DAY (DV)

So called "one-day" packers are equiped by a second reverse valve, which is placed at the end of the head of packer. This adjustment enables disassembling of the packer **straight after the end of grouting**.



OPK – M (DV) Steel packers combi with double valve.



APD – M (DV) Aluminum packer with double-casing **and double valve**.

Special types of packers – LOW PRESSURE (VK)

Packers designed for low-pressure groutings. These packers could be offered apart from the version with ball-head nipple, also with flat-head nipple with the connection to the pump's hose by mean of the hook-on-coupler.



OPK - M (VK)

Version of the packer with **ball-head** nipple with loose ball (low-pressure packer from 0,1 bar). Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws

OPD – M (VK)

Version of the packer with **ball-head** nipple with loose ball (low-pressure packer from 0,1 bar). Packer connection onto the grouting hose of the grouting pump: - coupler 4-jaws

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Grafical explanation of abbreviations

If none of the following abbreviations are in brackets after the packer name, it concerns a packer where is used standard rubber, screw without rim – ended by nut, body of packer is consisting of steel nut and on the packer there is used ball-head nipple.



DG – **double rubber** On the packer is used a rubber which is split in the middle by a washer.



VK – loose ball

On the packer is used nipple with loose ball, which allows groutings at low-pressures.



BG – rubber with inner braid (reiforcement) On the packer is used a rubber, which is reinforced by inner braid.



P6 – flat-head round nipple M6 (16 mm) On the packer is used

a flat-head round nipple with outside or inside diameter M6.

P8 – flat-head round

nipple M6 (16 mm)

a flat-head round nipple

On the packer is used

with outside or inside

diameter M8.

\bigcirc

T – rubber with soft protrusions On the packer is used a rubber with soft protrusions.





mP – flat-head small round nipple (10 mm)

On the packer is used a flat-head round nipple, size of the hexagon is 10 mm.

L – forged screw with rim

On the packer is used high quality forged screw with rim.



V – rubber with rough protrusions On the packer is used a rubber with rough protrusions.



DV – **double valve** Apart from the valve in the nipple, there is also added another valve in the head of packer, which creates one-day packer.



AM – aluminium nut On the packer there is used aluminium nut.





Special type of packers – GEL packers

These packers are used for curtain grouting with materials on gel base. Packer is featured with big internal diameter (ca. 6 mm) and long body of the packer, allowing the curtain grouting.

OPD – M (P10) Gel packer version with **flat-head** nipple.



OPD – M (KM - P10) Gel packer version with **flat-head** nipple and fly nut.

Special type of packers – FOR DEEP GROUTING

There are used for curtain grouting with materials on gel base, where is a need to inject deeply behind the solid wall. The clamping of the packer into the wall ensures a rubber placed immediately behind the nipple, the head of the packer is equiped by a tip or a blind nut. Injection holes are drawn to sides, thus ensuring a uniform dosing of the material to all sides.

HPK – M (P10)

Packer version for deep grouting with *flat-head* nipple.

Special type of packers – BLIND packers

They are used for fast blinding and sealing of grouting holes.







SOP – Š Versions of blind packers of various diameters



Special type of packers – STICK packers

These packers are used for grouting of cracks in the concrete or iron-concrete constructions, where isn't possible to drill into the construction. Maximal grouting pressure is limited by the material used for sticking of the packer onto the surface.

STICK PACKER PLASTIC







Special type of packers – OTHER



GROUTING BALLOON

It is designed for pressures up to 0,5 MPa (up to 5 bars).



AUTOGROUTING PACKER

These packers are used for low-pressure groutings of concrete cracs with epoxide or polyurethane resins.



HYDRAULIC PACKER

Hydraulic packer is used for pressure groutings in rocks. Anchoring of the hydraulic packer into the borehole is done automatically by pumped injection mixture. Hydraulic packer can be delivered in two designations:

- with mixer
- without mixer



Grouting packers - ACCESSORIES

SOCKET WRENCHES for packers

They are used for tightening of packers OPK, OPD or SPK in boreholes. We offer **manual** socket wrenches and wrenches for **cordless dril**.



WRENCH FOR CORDLESS DRILL

- sizes M8, M9, M10, M13 and M17



THE USE OF THE SOCKET WRENCHES FOR AKU

Socket wrench **M8**: OPK version M-5 Socket wrench **M9**: OPIH M-8 Socket wrench **M10**: OPK version M-6 and M-8, OPD version M-5, M-6, Š-5, Š-6 Socket wrench **M13**: OPD and APD version M-8 Socket wrench **M17**: OPD and APD versionM-10

WRENCH MANUAL

- sizes M7, M8 and M10

THE USE OF MANUAL SOCKET WRENCHES

Manual socket wrench **M7**: SPK version M-4 and M-5 Manual socket wrench **M8**: OPK version M-5 Manual socket wrench **M10**: OPK version M-6

STRIKERS of plastic injectors



PLASTIC STRIKER OF LAMELLAR INJECTORS

Manual, for lamellar injectors 12 mm and 18 mm



PLASTIC STRIKER OF CONICAL INJECTORS

manual, for conical injectors 10 mm



SDS STRIKER OF LAMELLAR INJECTORS

impact (on drill), use for injectors 12 mm and also injector 18 mm



SDS STRIKER OF CONICAL INJECTORS Impact (on drill), for conical injectors 10 mm

GROUTING PUMPS and accessories

Our company offers pumps for all basic types of groutings:

For waterproofing and sealing groutings company Anton Vorek s.r.o. produce and deliver a complete assortment of pumps, including accessories and spare parts for injections with materials on the base of the polyurethane resins and acrylate gels. We offer proffessional equipment for injection of masonry against the the ground and capillary dampness, even for stopping leakages of the pressure water in the masonry and concrete structures.

For strengthening pressure groutings company Anton Vorek s.r.o. produce and deliver a complete assortment of pumps, including accessories and spare parts for injections with two-component polyurethane resins. We offer proffessional equipment for strengthening groutings of masonry and concrete structures.

For cement groutings company Anton Vorek s.r.o. produce and deliver a complete assortment of pumps, including accessories and spare parts for injections with material on the base of very fine ground cement (Microcement) with plastificator. We offer proffessional equipment, products, and materials for cement filling and strengthening groutings of masonry and concrete structures.



GROUTING PUMPS



PUMPS FOR WATERPROOFING AND SEALING GROUTINGS

Grouting piston pump IVS-1

Pump IVS-1 is a piston pump **with a continuous regulation of the grouting pressure** for classic micro-grouting with one-component PUR materials. The operation and maintenance is thanks to its construction very easy. PET bottle can be used as a spare funnel.



Technical data:

Weight : Max. working pressure: Delivery capacity:	8 kg 0-250 bars (continuosly) up to 0,8 l/min According to material viscosity			
Pump ´s drive:	El. Dril adjusted for connection onto the pump (not included in pump delivery)			
Pump accessories (included in the pump delivery)				
 Catch driver for the drill Grouting hose high-pressure ML-M 3,0 m 				

- Coupler 4-jaws
- Spare sealing
- Spare filter (sieve)

CLEANING OF PUMP:

Solvant 2000, diluent S6001

At the purchase, the customer is properly familiarized with operation and maintenance of the pump. We warrant a guarantee and even after-guarantee service of the pumps.

HAND DRIVE (handle) for pump IVS-1



For exhaustion of grouting material From the pump IVS-1 in case of drill failure or power cut.

It is not part of the delivery, it has to be ordered separately as accessory.



Grouting piston pump IVS-5

Pump IVS-5 is a piston pump **without the pressure regulation** for classical micro-grouting with one component PUR materials. Construction of the pump enables easy operation and maintenance. Part of the pump is the grouting hose, coupler 4 jaws for connection of the hose to the packer with a ball-head nipple, set of spare parts.



Technical data:

Weight:	7 kg
Max. working pressure:	up to 250 bars (without
	regulation)
Delivery capacity:	up to 0,75 l/min
	according to material viscosity
Pump 's drive:	El. drill adjusted
	for connection onto the pump
	(not included in pump delivery)

Pump accessories (included in the pump delivery)

- Catch driver for the drill
- High pressure grouting hose M-M 5,0 m
- Ending with ball valve
- Coupler 4-jaws
- Spare sealing
- Spare filter (sieve)

CLEANING OF THE PUMP: Solvant 2000, diluent S6001

At the purchase, the customer is properly familiarized with operation and maintenance of the pump. We warrant a guarantee and even after-guarantee service of the pumps.

Manual grouting **PUMP**

It is a manual grouting pump of capacity 1 litre. Grouting pump is adjusted for classical grouting with one-component materials. It is suitable even for low viscosity materials. We recommend this pump for small grouting in places, without an electric power. Simple operation and cleaning.



Technical data:

Weight: Working pressure: 1,48 kg up to 250 bars (25 MPa) according to material viscosity

Pump accessories (included in the pump supply)

High pressure grouting hose ML-ML 0,5 m
 Coupler 4-jaws

CLEANING OF THE PUMP: Solvant 2000, diluent S6001



PUMP'S ACCESSORIES AND CONNECTION MATERIAL FOR WATERPROOFING AND SEALING GROUTINGS



GROUTING GUN

Grouting gun is designated for highly comfortable work with the pump. It is equiped with rotating coupling, which enables easier manipulation with hose. It is terminated with coupler 4-jaws for the connection **onto a ball-head nipple of the grouting packer or injector.** For connection, it is necessary to use the high-pressure hose with marking M-M (hose ending – cup nut).

Grouting gun is constructed for groutig pressures up to 400 bars (40 MPa). For safety reasons is possible to use The grouting gun only with a pump, which has pressure regulation function. (IVS-1).

COUPLER 4-jaws

For the connection of the pump's hose onto the grouting **packer with ball-head nipple.**



HOOK-ON-COUPLER 16 mm - angled

For the connection of the pump's hose onto the grouting **packer with flat-head nipple**. We offer hook-on-coupler 16 mm **in 2 variations with passages 1,5 and 3,5 mm**.



HOOK-ON-COUPLER 16 mm - straight

For the connection of the pump's hose onto the grouting **packer with flat-head nipple.** We offer hook-on-coupler 16 mm **in 2 variations with passages 1,5 and 3,5 mm.**



AL HOOK-ON-COUPLER 16 mm angled with rubber sealing

For the connection of the pump's hose onto the grouting **packer with flat-head nipple.** For maximal tightness.

ROTATING COUPLING

for hook-on-couplers

For maximal flexibility and increased work comfort. It reduce twisting of high-pressure hose and enables to rotate the hook-on-coupler according to the need.

VT GROUTING HOSE (VT = High Pressure)

Hoses are on one side terminated with a cup nut M12x1,5 and on the other side with outer thread M10x1. For connection of the grouting gun, we supply hoses terminated on both sides with cup nuts M12x1,5.

Technical data:

Maximal working pressure: Failure pressure: Standard lengths: 400 bars (40 MPa) 1600 bars (160 MPa) 1,5 m 2,0 m 3,0 m 5,0 m



TERMINATION M-ML

Hoses are on one side terminated with a cup nut M12x1,5 and on other side with outer thread M10x1.



TERMINATION M-M

Hoses are on both sides terminated with cup nut M12x1,5.

GROUTING PUMPS



PUMPS FOR STABILISATION GROUTINGS

Grouting double-piston pump AVD-2

Grouting pump AVD -2 is designed for grouting with two-component polyurethane resins with mixing rate 1:1 by volume into the building constructions for the purpose of sealing and strenghtening of the building constructions and soils. After decoupling of hoses from the mixer, the pump can be used even for sealing and water-proofing grouting with one-component polyurethanes (duplex pump).



Technical data:

Weight:14 kgMixing rate:1:1 (by vaMax. working pressure:250 barsDelivery capacity:up to 1 l/

Pump's drive:

14 kg 1:1 (by volume) 250 bars up to 1 l/min acc.to material viscosity El. drill adjusted for connection onto the pump (not included in pump delivery)

Pump accessories (included in the pump delivery)

- Catch driver for the drill
- High pressure hose M-M 5,0 m
- Ending with ball valves and mixer
- Coupler 4-jaws
- Spare sealing
- Spare filter (sieve)

CLEANING OF THE PUMP: Solvant 2000, diluent S6001

At the purchase, the customer is properly familiarized with operation and maintenance of the pump. We warrant a guarantee and even after-guarantee service of the pumps.



PUMPS FOR CEMENT GROUTING

Grouting spindle pump IVC-1

It is a spindle pump, which is adjusted for cement grouting with the use of mixtures without abrasive additives.

Pump has its own drive, transport wheels and handle. The mixing funnel is equipped with safety screens against the intrusion of coarse dirt. Pump has a stand for securing the mixing device with a holder for the drill. The drill and the fixings are not a part of delivery. The pump has a variable material suction capability from a replacement source (e.g. barrel). The pump can be easily dismantled for a transport.



Technical data:

Weight: Working pressure Delivery capacity:

Max. grain size: Pump's drive: 50 kg up to 8 bars (0,8 MPa) up to 15 l/min according to material viscosity do 0,3 mm Electric motor *(it is part of the pump)*

Pump components:

- Grouting hose 5,0 m terminated by hollow screw with an outer thread M10x1

At the purchase, the customer is properly familiarized with operation and maintenance of the pump. We warrant a guarantee and even after-guarantee service of the pumps.



PUMP'S ACCESSORIES AND CONNECTION MATERIAL FOR CEMENT GROUTINGS





Is designated especially for cement grouting. It is produced with a thread M10x1 and **inner flow 8 mm.** Closing of the nipple is solved by a classic ball and spring. The flat-head nipple M32 is adjusted for connection to packers marked as **OPD xx/xxx-Š-10.** A hook-on-coupler M32 is needed for a connection to the pump.



HOOK-ON-COUPLER M32 - DIRECT

For easy coupling of the hose of the cement pump to the packer with flat-head nipple M32. Inner flow of the hook-on-coupler M32 is 8 mm.



COUPLING SET IVC for flat-head nipple M32

The whole set has inner flow 8 mm. It is possible to equip the set with manometer.

QUICK COUPLER for lamellar injector 18 mm

It is designated for coupling of the grouting pump IVC hose with Injectors 18 mm. It is possible to accomplish the set with a manometer.

COUPLER

for lamellar injector 18 mm

It is designated for coupling of the grouting pump IVC hose with Injectors 18 mm. It is possible to accomplish the set with a manometer.









Flexible hose 7/10 for a direct application of the cement mixture into prepared joints and injection holes.

COUPLER M10x1 for flexi hose

Cooupler for connection onto a flat-head nipple M32 or onto shaft locking with thread M10x1.





PACKERS AND INJECTORS FOR CEMENT GROUTINGS



OPD XX-XXX-Š-10

The inner diameter of the packer is 7,5 mm. We offer rubber of diameter 16-32 mm. The length of packer is standardly 150 – 600 mm. Packer is ended by screw with a thread M10x1.

Connection of the packer onto the hose of the grouting pump:

- flat-head nipple M32 and hook-on-coupler M32

LAMELLAR INJECTOR 18 mm

The length of the injector 18 mm is 115 mm, inner diameter is 7,5 mm. Injector is designated for boreholes of diameter 18 mm.

Recommended pressure: 0,1 - 40 Bar

Connection of the packer onto the hose of the grouting pump: - quick-coupler or coupler



GROUTING HOSES and accessories

Grouting hoses are designed for sealing the constructing joints in the concrete constructions. It is a single-wall hose on the base of PVC with unique system TRAPEZOIDAL CROSS-SECTION[™] with holes resp. conic grooves, which slightly converge from inside to outside. These holes are designed for the outlet of the pressure grouting material and consequent sealing of the construction joints in the concrete construction. The holes close on the base of special geometry and when concreting, they prevent penetration of the cement mixture into the grouting hose. Grouting hose is used for multiple sealing grouting of the construction joints, which are permanently or alternately burdened with ground, sewer or surface water.



ADVANTAGES OF GROUTING HOSES TECHNOLOGY

- Easily applicable for a grouting with polyurethane resin.
- Possibility of **multiple** grouting with special one-component polyurethane resin.
- A sufficient cross section of the transport channel after the concreting lowers the inner friction of the grouting material and by this it allows an economical length of the grouting.
- The internal diameter of grouting hose IH 18/10 enables three times longer grouting sections.
- A prevention of the cement mixture penetration into the grouting hose, when concreting.
- Easy manipulation and time-saving installation.
- No undesirable roll distortion at the installation, because it is a round hose.
- The exit of the grouting material from the hose system in the cast-in state immediately at a normal pressure, i.e. material output is ensured at all sides.
- Output holes run conically from inside to outside, thereby there is only a low resistance of holes to overcome.
- A smooth surface prevents from an undesirable connection of the grouting hose and concrete.
- A grouting after years is also possible, because the smooth surface doesn't encourage the "ingrowths" of the hose into the concrete
- Very good price in proportion to the performance.



COMPLETE ASSORTMENT OF IH 12/6



GROUTING HOSE IH 12/6

Is perforated grouting hose for installing into the construction for easy additional sealing of the construction and dilatation joints of underground concrete constructions.

Technical data:

Colour: Outer Ø: Inner Ø: Max. length of grouting sector: Perforation (axial cross): Weight: Packing:

yellow 12 mm 6 mm 10 m after 17 mm 0,14 kg/common meter 50 m (roll)

Reccomended grouting materials:

Special one-component PUR resins and gels.

Minimal pressures for output of grouting material:

1.	grouting:	30 bars (3 MPa)
2.	grouting:	50 bars (5 MPa)

- 2. grouting: 3. grouting:
 - 100 bars (10 MPa)

It is possible to produce IH 12/6 with exactly given sections of perforation and without perforation for the output of the grouting material exactly in place, where needed.

HIGH-PRESSURE EXTENSION HOSE 14/6 TRANSPARENT

High-pressure extension hose 14/6 is used to join the grouting hose IH 12/6 and for leading out of the concrete structure. High-pressure extension hose ensures the transfer of injection material between the injection pump and grouting hose.

Technical data:

- Colour: Outer Ø: Inner Ø: Perforation (axial cross): Weight: Packing: Max. working pressure:
- clear, transparent 14 mm 6 mm without perforation 0,155 kg/common meter 20 m (roll) 110 Bar



GROUTING HOSES





Packer VPIH M8 for IH 12/6

Is designed to attach the grouting hose IH 12/6 on the inside of the boarding Before concreting and for consequent Pressure grouting of the grouting hose.



Packer OPIH M8 for IH 12/6

Is designed for pressure grouting of the grouting hose IH 12/6. They are used in places, where the hose is led out of the boarding.



Packer OPIH-T M8 for IH 12/6

Is designed for pressure grouting of a grouting hose IH 12/6. They are used in the place, where the grouting hose is led into the collecting box.



Connection screw M8 for IH 12/6

Is designed for connecting of the grouting hoseIH 12/6 and the extension hose PH 14/6. It can also be used for connection of the grouting hoses IH 12/6.



Clamps for IH 12/6

They serve to fasten grouting hoses to a wall or flooring. We offer metal or plastic clamps.



COMPLETE ASSORTMENT IH 18/10



GROUTING HOSE IH 18/10

Is perforated grouting hose for installing into the construction for easy additional sealing of the construction and dilatation joints of underground concrete constructions.

Technical data:

Colour:	yellow
Outer Ø:	18 mm
Inner Ø:	10 mm
Max. length of grouting sector:	30 m
Perforation (axial cross):	after 20 mm
Weight:	0,235 kg/c.meter
Packing:	50 m (roll)

Recommended grouting materials:

Special one-component PUR resins, micro-cements and gels.

Minimal pressures output of the grouting material:

1.	grouting:	30 bars (3 MPa)
2.	grouting:	50 bars (5 MPa)
2	grouting	100 hars (10 M

3. grouting: 100 bars (10 MPa)

On request it is possible to produce IH 18/10 with exactly given sections of perforation and without perforation for the output of the grouting material exactly in place, where needed.

HIGH-PRESSURE EXTENSION HOSE 16/10 TRANSPARENT

It is used for interconnection with the grouting hose IH 18/10 and for leading out of the concrete structure.

Technical data:

Colour:	clear, transparent
Outer Ø:	16,5 mm ± 0,5
Inner Ø:	10,5 mm ± 0,5
Perforation (axial cross):	without perforation
Packing :	25m or 50 m (roll)
Max. working pressure:	80 Bar (at 20°C)



GROUTING HOSES





Packer VPIH M12 for IH 18/10

Is designed to attach the grouting hose IH 18/10 on the inside of the boarding before concreting and for consequent pressure grouting of the grouting hose.



Packer OPIH M12 for IH 18/10

Is designed for pressure grouting of the grouting hose IH 18/10. They are used in places, where the hose is led out of the boarding.

Packer OPIH-T M12 for IH 18/10

Is designed for pressure grouting of a grouting hose IH 18/10. They are used in the place, where the grouting hose is led into the collecting box.

Connection screw M12 for IH 18/10

Is designed for connecting of the grouting hose IH 18/10 and the extension hose PH 16/10. It can also be used for connection of grouting hoses IH 18/10.





Clamps for IH 18/10

They serve to fasten grouting hoses to a wall or flooring. We offer metal or plastic clamps.

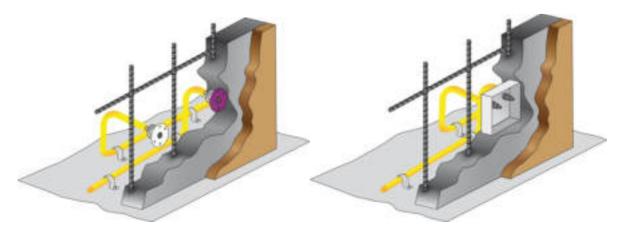


SET-A IH 12/6 mm

CHARACTERISTICS

SET-A IH 12/6 mm is a complete set of all requirements needed for the installation of the **injection hose** into working and expansion joints in concrete structures. Injection system **SET-A IH 12/6 mm** is designed for repeatable and non-destructive repair of damp-proofing failures of construction works. Grouting can be, in compliance with the technological procedures, performed repeatedly. The grouting can be, in compliance with technological procedure performed repeatedly.

SET-A IH 12/6 mm is designed for instalation of the outlet **inside of the boarding** (please see pictures below):



Packaging



SET-A IH 12/6 mm contains:

20 pcs combined injection hose KIH 12/6 of length 11 m 20 pcs packer VPIH M-8 white 20 pcs packer VPIH M-8 red 800 pcs plastic clamps for injection hose 12/6

Installation

Combined injection hose KIH 12/6 is an injection hose, which has perforation in the length of 10 metres, on both hose ends there is a 0,5 m long section without perforation. The perforated section is secured by the help of **clamps** into the working or expansion joints in the place, where we will need the outflow of the grouting medium. The injection hose is secured with clamps every ca. 25 cm part of the hose serves as Unperforated part of the hose serves as a traffic conductor to the packer VPIH M8, which is fixed by nails from the inside of the boarding. The length of unperforated hose is adjusted according to local conditions. Colour resolution of packers VPIH M8 serves for better orientation when installing the injection hose.

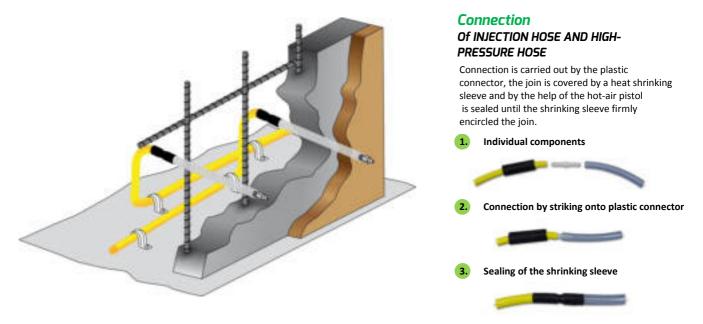


SET-B IH 12/6 mm

CHARACTERISTICS

SET-B IH 12/6 mm is a complete set of all requirements needed for the installation of the **injection hose** in working and and expansion joints in concrete structures. **Injection system SET-B IH 12/6 mm** is designed for repeatable and non-destructive repair of damp-proofing failures of construction works. Grouting can be, in compliance with technological procedures, performed repeatedly.

SET-B IH 12/6 mm is designed for installation of the outlet **outside of the boarding** (please see the picture below):



Packaging



SET-B IH 12/6 mm contains:

20 pcs injection hoses IH 12/6 length 10 m 40 pcs high-pressure extension hoses PH 14/6 lenght 0,5 m 40 pcs hose connectors 6 mm 40 pcs shrinking sleeves 16/8x6 mm 40 pcs packers OPIH M-8 40 pcs clamping rings 800 pcs plastic clamps for inj.hose 12/6



ACCESSORIES FOR IH



Collecting box for IH 12/6 and 18/10

Is designed for placing on an armature and for leading out grouting hoses and profiles. We deliver collecting boxes in two versions – without a fixing wire and with a fixing wire for attaching to the armature.

Standard dimensions: Holes: 200x200x50 mm 1-9 according to a request Ø 9 or 11 mm

Packer OPSK-T for injection behind the collection box

Serves for cement grouting behind the collection box (filling of the cavities behind the collecting box after grouting, where the cavity can be created).





STOPADIANT

Flushing and conservation IH 12/6 and 18/10

Stopadiant Is a one-component rinsing and conservating material designed for securing a longterm repeatability of the Safety grouting system (SGS) with the use of the **polyurethane resins** as MEDIATAN and AV-PUR. It is applied into the safety grouting system in the building constructions with special grouting devices (pumps, hoses, packers). It is a non-reacting mixture of polyols containing coloring.



Pliers for hose and rubber cutting

Serves for comfortable and exact cutting of injection and high-pressure extension hoses. The edge is changeable.

DIFFUSIVE LATHES

Diffusive lath - DLD is a 2 parts plastic perforated lath, which is designed for removal of diffuse water vapours from the masonry to the open space. It removes deffects on plasters, which arise from a reason of an excessive concentration of water vapours at the contact of the vertical plaster with the floor.



DIFFUSIVE LATH INTERIOR DLD-i 70/14

Technical data:	
Dimensions:	70 x 14 x 2500 mm
Size of holes:	4 x 50 mm
Number of holes:	40/common metre
Material:	PVC
Colour:	White – surface can be coloured
	by acrylate colours
UV resistance:	Material contains UV stabilisator,



DIFFUSIVE LATH EXTERIOR DLD-e 70/14

Technical data:

Dimensions: Size of holes: Number of holes: Material: Colour:

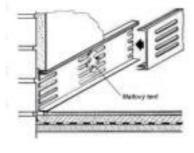
UV resistance:

70 x 14 x 2500 mm 4 x 50 mm 40/common metre PVC White - surface can be coloured by acrylate colours Material contains UV stabilisator, it is resistant to UV radiation

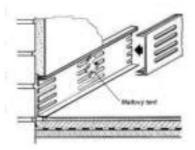
it is resistant to UV radiation

INSTALLATION

The lath is installed at the level of the wear layers of the floor constructions onto a well cleaned masonry.



1)It could be anchored to the masonry by the help of the mortar targets (equivalent of laying of the whiteware tilling) in the spacing between 40 - 60 cm apart at the floor level, above the socle or at the level of an additionally performed damp proofing. The lath must be leveled into the screeds, the exterior lath into the amended screeds. After hardening, the area behind the lath (if it is greater than 1,5 cm) is filled with the fragments of the bricks so it doesn't come to the joint filling with the mortar at the plastering.



2) A dry installation can be carried out by the help of the nailing dowels and spacers, by which the area of the uneven masonry with the lath is adjusted. The best is to make the spacers from a plastic that constantly resists to a damp environment.

Before the installation is appropriate to provide the lath with a paint tape or foil as a prevention against damage.

The product fulfills the essential requirements under Government Order No. 163/2002 Sb., for the intended use of the product.

General Terms and Conditions of sale and services applied by the company Anton Vorek s.r.o.

1. General Conditions

1.1 These general terms and conditions apply to all business relationships

between the seller - company Anton Vorek s .r. o. (hereinafter referred to as "Seller") and the buyer - legal entity or an individual (hereinafter referred to as "Buyer") for the sale of goods and services, based on the generally applicable legislation of the Czech Republic.

1.2 The rights and obligations of parties under these terms and delivery conditions are governed by the Czech law, especially the Act no. 89/2012 Sb., by the Civil Code, as amended.

1.3 These General Terms and Conditions are an integral part of each contractual relationship and their exact version is published on the website: <u>www.vorek.cz</u>

1.4 By ordering goods and services, the Buyer express acceptance of these General business and delivery terms stated by Anton Vorek s.r.o. for goods sale and providing of services.

2. The price of products and the formation of a contractual relationship

2.1 Prices of goods stated in the Seller's price list are exclusive of VAT, packing, freight and export customs duties if these are applicable. These items will be charged separately on the invoice. The price list is always valid until the new price list is sent out.

2.2 The Buyer is obliged to pay the price of the goods after the addition of VAT at the rate provided in accordance with the valid legislation at the date of delivery. This does not apply if this concerns the transferred tax liability when the obligation to declare VAT is on the buyer.

2.3Validity of price quotation prepared by the Seller is stated in each price offer.

2.4 For small orders, where the value of the goods is below 200 EUR without VAT (alternatively an equivalent of this amount in other currency), there will be charged an extra handling fee at the amount of 20 EUR. (Alternatively the equivalent of this amount in other currency).

2.5 A proposal for concluding the contractual relationship – Buyer's order, could be delivered to the Seller by the e-mail, fax, mail, in person or by the telephone.

2.6 The contractual relationship between the Seller and the Buyer begins by the delivery

of a written acceptance of the order to the Buyer via e-mail, fax, mail or telephone confirmation or by a personal confirmation upon the receipt of goods.

2.7 The formed contractual relationship may be changed or cancelled with the agreement of both parties only.

3. Payment terms

3.1 The Buyer is obliged to pay the agreed purchase net price on the base of the tax document (invoice) issued by the Seller in the accordance with an agreed maturity.

3.2 The day of fulfillment of the Buyer's obligation to pay to the Seller the agreed purchase price shall be the date when the funds matching the agreed net purchase price will be credited to the Seller's bank account stated on the invoice or the payment will be made in cash into the Seller 's cash box.

3.3 If the agreed net purchase price should be paid by the Buyer before the delivery, it shall be due on the base of the issued deposit invoice. In this case the Seller is not obliged to carry out the delivery before the payment of the agreed purchase price is received.

3.4 In the case of cash on delivery, the buyer is obliged to pay the agreed net purchase price in cash to the authorized shipping company upon the receipt of the consignment.

3.5 If the Buyer is in default in complying with any financial debt, or its part, he is obliged to pay to the Seller the contractual default interest at the agreed amount of 0.1% from the overdue amount per day for the period of delay, until the full settlement of the overdue amount.

4. Delivery Conditions

4.1 The seller is obliged to deliver the object of sale within the agreed period on the basis of agreed delivery term DAP according to INCOTERMS 2010, unless another delivery term is agreed. Risk of goods damage (i.e. the risk of loss and damage) is passed onto the buyer according to the content of the agreed delivery term.

4.2 Goods are delivered by post, or by a forwarding or parcel service.

4.3 Unless the Seller and Buyer agree on a special method of goods packaging, the Seller is liable to obtain usual packaging suitable for a dispatch and transport of the delivered kind of goods.

4.4 The Buyer is obliged to inspect the shipment upon receipt. In the event of obvious and noticeable damage

on the packaging surface or obvious and recognizable partial loss of the consignment inside of the package, the Buyer (or the consignee of the consignment) is obliged to fill in the Report of the damage, with the forwarder, before accepting the shipment and afterwards the buyer must immediately inform the Seller about this fact in writing. Further manipulation with the damaged shipment must be made in accordance with the instructions of the Seller. If the damage or the partial loss of the consignment content is not obvious during the handover and the receipt by the Buyer (or the consignee), the Buyer must notify the Seller about the damage in writing the next working day after the date of the delivery.

4.5 The Seller is entitled to realize a partial delivery and the Buyer is obliged to take over this partial delivery.4.6 Goods may be returned back only with the previous permission of the company Anton Vorek s.r.o..At non-permitted return of the goods back, the accompanying expenses will be charged to the Buyer. Returned goods can be taken back only in the perfect condition and original packaging. Opened packaging, products with limited durability and special products will not be taken back.

4.7 When transporting dangerous goods classified according to ADR compliance, relevant regulations regarding the allowable amounts and equipment of vehicles are followed. At the personal collection the relevant required information are transmitted directly to the customer.

4.8 The Buyer agrees to immediately notify the Seller in writing about all changes to its tax identification (VAT number), or also about the regime change in VAT registration (nonpayer/payer). When a breach of this obligation occurs, the Seller is entitled for a compensation of all property damage that was caused to the Seller due to the VAT payment or paying penalties or other performance towards the tax administrator.

5. Ownership right to the goods

5.1 The goods remain as the property of the Seller until the full payment of the goods purchase price including VAT is made. (so called "Reservation of property rights").

5.2 Until the full payment of the purchase price, including VAT is made, the Buyer isn't entitled to transfer ownership of the goods to a third party.

6. Force majeure

6.1 The Seller is not responsible for the complete or partial failure of liabilities nor for incurred delay, if the events of force majeure occurred or events that could not be foreseen at the time of closing the contractual relationship, in particular: a strike, war, other disturbances of a similar nature, trade, monetary, political and other authorities' actions, natural disasters, such as fire, flood, earthquake, further the Seller's uncaused delays in deliveries of material and components or their incorrect delivery from suppliers, delays of transportation, transport lockouts, breakdown of a manufacturing facility or its part or similar force majeure events, including decision or direction of the competent state authority that restricts or make impossible the fulfillment of contractual obligations, difficulties in obtaining of material, energy, raw materials, manpower, or the lack thereof.

6.2 The party that is in terms of force majeure, shall notify in writing without delay the other side about the fact that force majeure is happening, with an expected duration, and also notify in writing the other side when this period is over.

6.3 In the event of arisen unforeseen circumstances, the time for the fulfillment of an obligation extends proportionally to the period during which such circumstances and their consequences occurs.

7. Guarantees and liability for goods defects

7.1 The Seller provides to the Buyer the guarantee of 24 months from the delivery date on the quality of delivered goods. The Seller is not liable for defects incurred by a worn out of the material by casual use of the goods or the use of the goods, which is in a conflict with the documentation relating to the goods if this documentation was provided. 7.2 The Buyer is obliged to check the delivered goods by an acceptance, when he checks delivered quantities, as well as apparent goods defects that are detectable upon the goods receipt. After the goods acceptance the Buyer is entitled to submit a complaint for the missing or defective pieces only.

7.3 All complaints must be made in writing (notification by fax, e-mail or in writing by mail service to the company headquarters' address of the Seller) through a protocol of defects which must contain the identification data of the claimed consignment (delivery note number, invoice number, date of goods delivery), a description of identified defects and claim, with possible alternative methods of settling.

7.4 The Buyer is obliged to assert the claim by sending the protocol of defects to the Seller within 5 days from the goods delivery date, if this concerns a complaint of quantity, mistaking of goods kind or obvious quality defects.

7.5 The Buyer is obliged to notify the Seller by sending the protocol of defects without undue delay about any other hidden defects, which could not be found at the receipt and acceptance of the goods, i.e. within 5 days after their discovery, but no later than the end of the agreed warranty period.

7.6 The claim from defects cannot be granted if the Buyer hasn't sent to the Seller a protocol of defects without undue delay (see section 7.4. and 7.5) or failed to send, upon the Seller's request, any additional data

required for a claim or claimed samples within 30 days from the receipt of the appeal for their submission. 7.7 The Seller is obligated to reply to the Buyer in writing his opinion on the complaint within 30 days of receiving the complaint.

7.8 The guarantee fulfillment provided by the Seller is limited to the net value of delivered goods.

7.9 Complaints regarding to defective goods shall not entitle the Buyer to withhold the payment of the price of goods.

8. Final provisions

8.1 All disputes between the Buyer and the Seller shall be solved primarily amicably and by a mutual agreement. If there is no agreement between the Buyer and the Seller, all disputes arising out of any contractual relationship and in the connection therewith will be in final validity decided by the Arbitration Court attached to the Czech Chamber of Commerce and Agrarian Chamber of the Czech Republic according to its rules by one arbitrator appointed by the chairman of the Arbitration Court.

8.2 If the Buyer is a subject with entity based in the Czech Republic the incurred dispute shall be discussed and decided objectively by an appropriate court, whose jurisdiction is given by the business address of the Seller.8.3 These General Terms and Conditions come into effect from 1.5.2015 and replace the previously applied General Terms and Conditions.





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ANTON VOREK s.r.o.



Manufacturer and supplier of complete assortment of injection equipment, materials and accessories for carrying out chemical micro-groutings since 1996.

We use the newest knowledge in the field of high-pressure micro-groutings. All our products are of excellent European quality and they go through long quality testing process before they are delivered to our customers. We have satisfied customers not only within the EU, but also all over the world. We guarantedd fast and reliable deliveries of goods including the service of machines and equipments. We are one of the founding companies of the Czech branch of the WTA international

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