

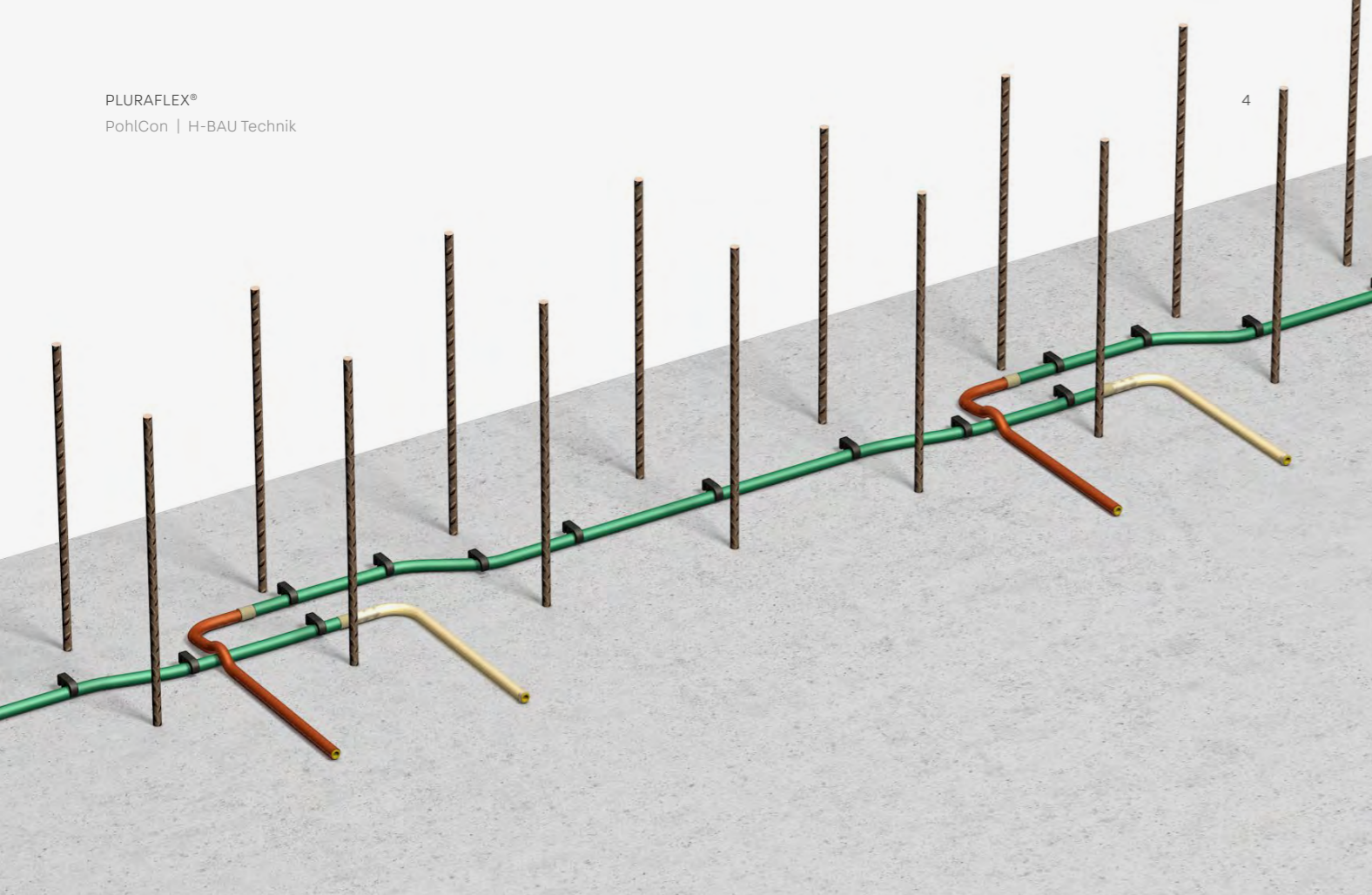
PLURAFLEX® Injection hose system

Technical information



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PLURAFLEX®

Injection technology system

The product

PLURAFLEX® is a tried-and-tested injection hose system for sealing construction joints in watertight concrete constructions against water under pressure and not under pressure. The system is suitable for processing all conventional injection materials. The range of different hose properties and diameters make PLURAFLEX® a flexible and economical product. The geometry closes the openings and effectively prevents cement paste from entering the transport channel during casting.

Area of application

- For the production of water-impermeable construction joints by planned injection
- As a secondary seal in all horizontal and vertical construction joints
- For structures affected by water under pressure and water not under pressure
- Structural, civil and construction engineering projects



Benefits

- General building code test certificates: P-5210/950/08 MPA-BS
P-5204/944/08 MPA-BS
- Permissible water pressure 1.0 bar in line with German building code test certificate (abP)
- PVC injection hose
- Technically coordinated sets with accessories
- PLURAFLEX® P11 and P19 can be injected multiple times
- Easy to assemble
- Smooth surface prevents undesirable bonding between injection hose and concrete
- Can be combined with other products (e.g. PENTAFLEX® and KUNEX®) as a secondary seal

Technical information

For sealing joints in in-situ concrete



PLURAFLEX® C11

- The single-walled PVC hose is used to seal construction joints.
- The suitable injection medium is PU injection resin which is permissible in line with the German building code test certificate.
- The filling quantity per metre is 0.20 kg plus any additionally required injection material (1-3 kg).
- The maximum assembled length is 10 m as greater lengths would require an excessively high injection pressure.
- The interior diameter of the hose is 6 mm and the exterior diameter 12 mm.
- Easy to inject



PLURAFLEX® P11

- The double-walled PVC hose is used to seal construction joints.
- The suitable injection medium is PU injection resin or a cement suspension which are permissible in line with the German building code test certificate.
- The filling quantity per metre is 0.20 kg plus any additionally required injection material (1-3 kg).
- The maximum assembled length is 10 m.
- The interior diameter of the hose is 6 mm and the exterior diameter 11.8 mm.
- For multiple injection



PLURAFLEX® P19

- The double-walled PVC hose is used to seal construction joints.
- The suitable injection medium is PU injection resin or a cement suspension which are permissible in line with the German building code test certificate.
- The filling quantity per metre is 0.38 kg plus any required injection material (1-3 kg).
- The maximum assembled length is 10 m.
- The interior diameter of the hose is 11 mm and the exterior diameter 19 mm.
- For multiple injection



PLURAFLEX® C11 aktiv

- The PVC injection hose with rubber waterstop tape is used to seal construction joints.
- PU resins and PU foams can be used as injection media.
- The filling quantity per metre is 0.20 kg plus any additionally required injection material (1-3 kg).
- The maximum assembled length is 10 m.
- The interior diameter of the hose is 6 mm and the exterior diameter 11 mm.

Material parameters

	Single-walled Injection hose	Double-walled injection hose	
	PLURAFLEX® C11	PLURAFLEX® P11	PLURAFLEX® P19
Material type	PVC-based	PVC-based	PVC-based
Shape	Round	Round	Round
Diameter mm	Inside: 6 Outside: 12	Inside: 6 Outside: 11.8	Inside: 11 Outside: 19
Weight g/m	106 ± 3	104 ± 3	253 ± 3
Length of outlet opening	5 mm	5 mm	10 mm
Hole arrangement inside hose	Every 12 mm in a cross pattern, i.e. 24 openings/100 mm	Every 20 mm rotated by 90°, i.e. 6 openings/100 mm	Every 20 mm rotated by 90°, i.e. 5 openings/100 mm
Injection length	Max. 10 m ¹⁾	Max. 10 m ¹⁾	Max. 10 m ¹⁾
Maximum water pressure	1.0 bar	1.0 bar	1.0 bar
Maximum height of the concrete column	5 m	5 m	5 m

¹⁾ in line with DBV fact sheet

Notes
For further technical features and information on assembly, installation and injection, please refer to the general building authority test certificates and the DBV fact sheet on injection hose systems and swellable inserts for construction joints issued by the German Society for Concrete and Construction Technology (DBV), Berlin 2020

Our Application Technology department would be happy to provide you with further information.

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Installation instructions

General information

Transport and storage

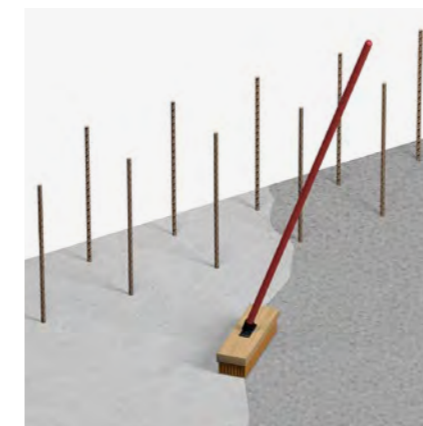
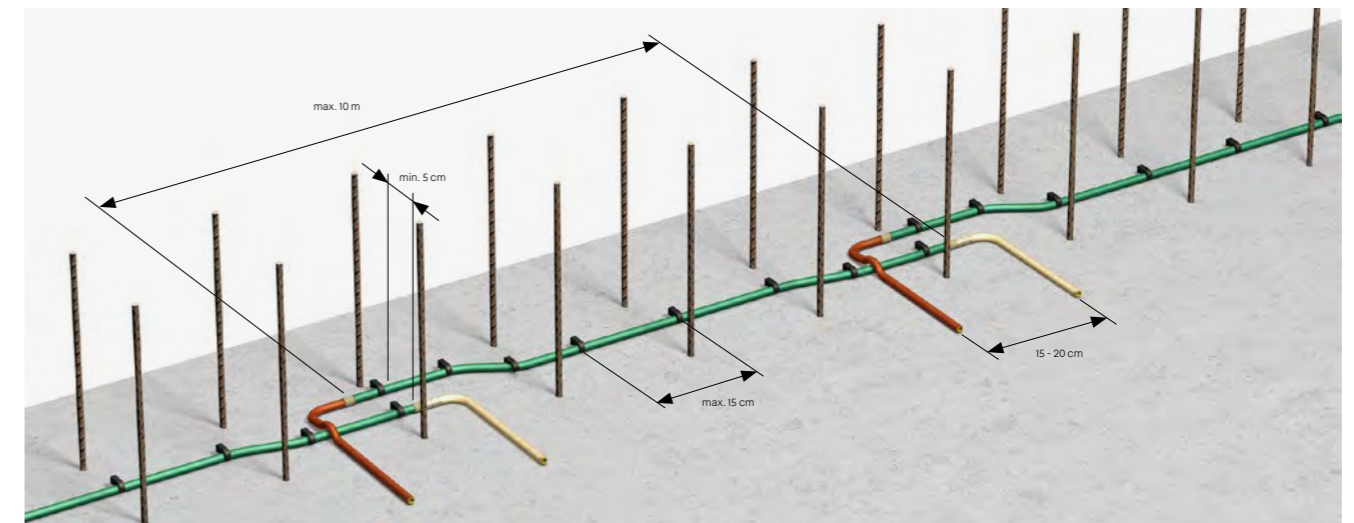
- The injection hoses must be loaded and unloaded carefully and secured for transport. After delivery, check that they are undamaged and complete.
- Injection hoses must be kept in the original packaging, protected from direct sunlight and stored in a dry and frost-free place until use.

Installation

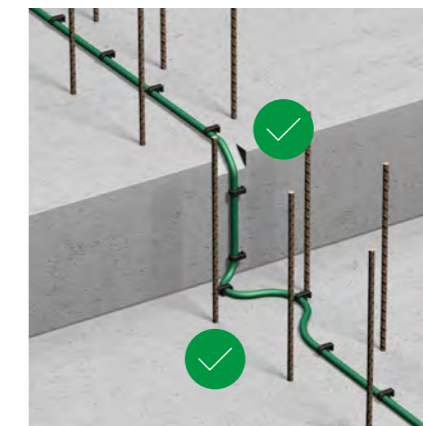
- The substrate must be level, clean and load-bearing.
- Install PLURAFLEX® in the centre of the construction joint.
- PLURAFLEX® can be installed in sections of max. 10 m (with end pieces).
- Fasteners must be applied every 150 mm or more frequently if the joint is uneven.

- PLURAFLEX® follows the surface contour: Changes of direction must be executed using the correct bending radius. The hose system must not be kinked or constricted.
- Cross-injection must be prevented in the area of the hose ends e.g. by keeping them a minimum distance of 50 mm apart or wrapping with adhesive tape.
- Injection hoses must overlap at least 150 mm where two injection sections meet.
- Hoses laid parallel to one another must be spaced a minimum of 50 mm apart. The concrete cover in the finished component must also be at least 50 mm thick.
- The hose must only be injected after the hydration process has finished and the construction joint is almost fully loaded.

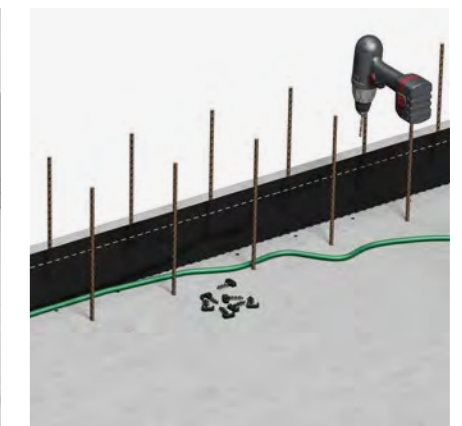
Installation example



Cleaning the substrate before installation



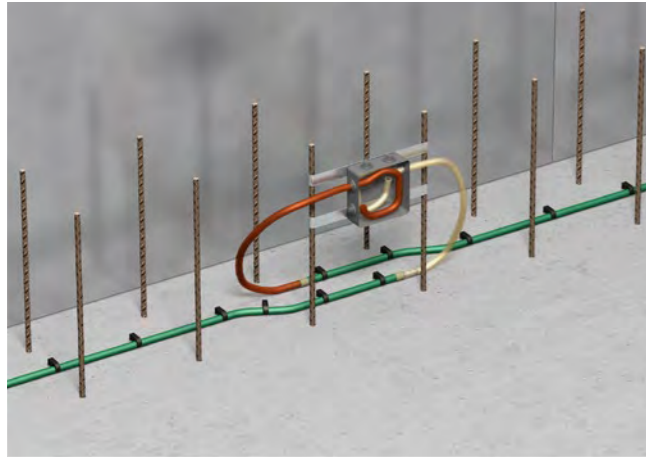
Prevent kinking when changing direction or elevation



Installation as a secondary seal in combination with PENTAFLEX®

Installation variants

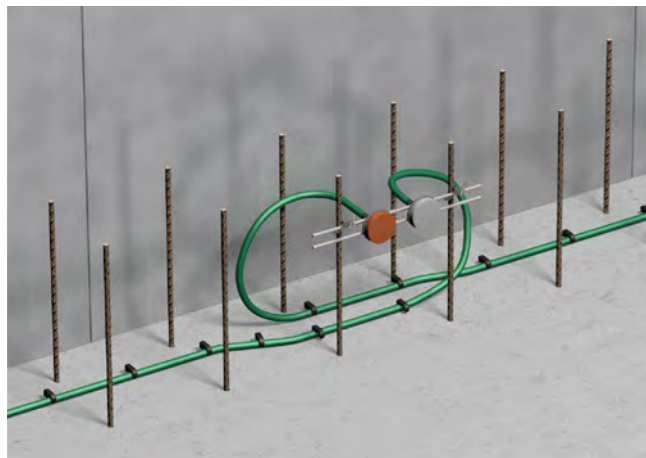
Using protective boxes



Simplified illustration of using a protective box

- Injection of the PLURAFLEX® injection hose system through approx. 10 cm of filling and venting hoses inserted in the protective boxes.
- In horizontal construction joints, the protective boxes must be located around 15 cm above the joint; in vertical construction joints, they must be positioned next to the joint. Special structural conditions must be taken into consideration.

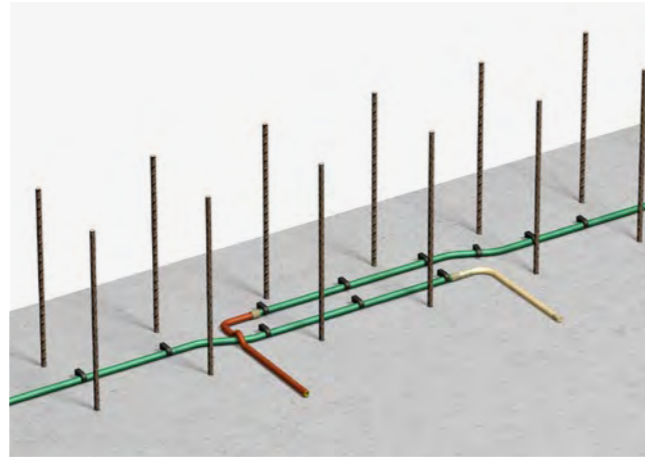
Fixed to the reinforcement with shutter spider and packers



Simplified illustration of hoses fixed to the reinforcement with shutter spider and packers

- Injection of the PLURAFLEX® injection hose system through nail packers attached to the reinforcement by a spider.
- No need to use filling and venting hoses.

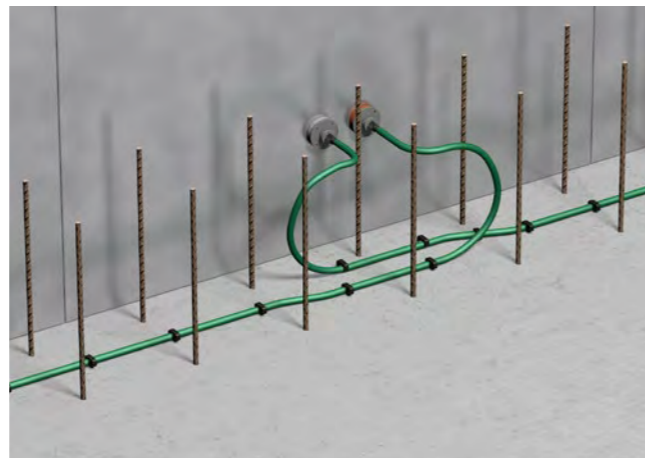
Routing the PVC hoses out from underneath the formwork



Simplified illustration with hoses routed out from underneath the formwork

- Injecting PLURAFLEX® injection hose system through end pieces routed out from underneath the formwork.

Fixed to the formwork with nail packers



Simplified illustration of hoses fixed to the formwork with nail packers

- Injection of the PLURAFLEX® injection hose system through nail packers that were attached to the formwork before casting.
- No need to use filling and venting hoses.



Notes

The protective boxes or nail packers must be positioned at spots that will be easily accessible later on.

Accessories



Filling/venting hose

Textile-reinforced PVC-hose for filling and venting the injection hoses.



Plastic clips

For fastening the PLURAFLEX® injection hoses (incl. C11 aktiv) to concrete.



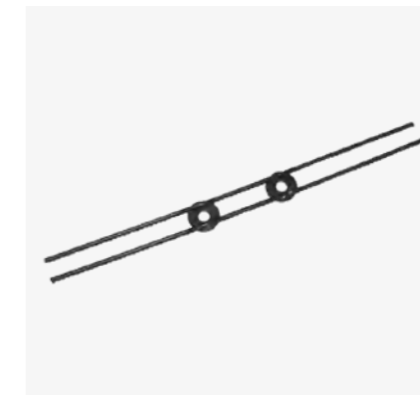
Hose clip

For attaching the nail packers and injection nozzles to the hoses.



Protective box

For protecting the filling and venting hoses in the concrete component.



Spider

Spider for attaching two nail packers to the rebar.



Two-part nail packer

Packer for fixing the injection hoses to a spider or formwork.



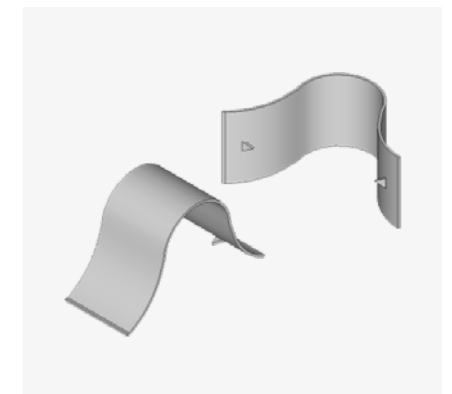
Foam rubber

Foam rubber piece with adhesive on one side for sticking to nail packers.



Seam sheet clip

For fastening the PLURAFLEX® injection hoses to seam sheets.



Joint tape clip

For fastening the PLURAFLEX® injection hoses to joint tape.



Yellow plug
For closing the filling and venting hoses.



C11 coupler
For joining PLURAFLEX® C11 to filling and venting hoses.



Heat-shrink hose
For securing the connection between PLURAFLEX® P11 and P19 and the filling and venting hoses.



PUR injection foam resin 50 / WEBAC 150
For sealing water-bearing cracks and leaks.



PUR injection foam resin 05 / WEBAC 1405
For sealing cracks and injecting into injection hoses.

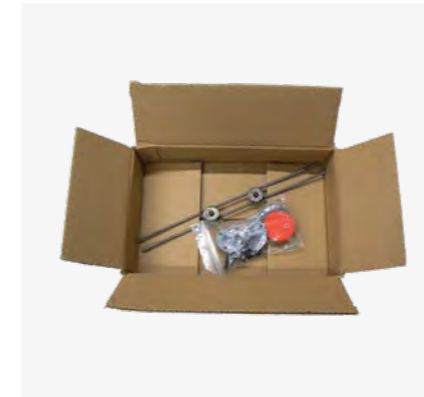


EP injection resin WEBAC 4110
For friction-locked connections.



2C injection grout
Hardens quickly and is watertight after curing.

Accessory sets



Set S C11/P11
Package with packers and spiders for PLURAFLEX® C11 and P11.



Set V C11
Package with PVC hose and protective box for PLURAFLEX® C11.



Set V P11
Package with PVC hose and protective box for PLURAFLEX® P11.

Set contents suitable for installation variants with protective boxes, routed underneath the formwork or with packers/spiders

	PLURAFLEX® S C11/P11	PLURAFLEX® V C11	PLURAFLEX® V P11
Used for installation variant	Packers/spiders	Protective box, underneath the formwork	Protective box, underneath the formwork
1 x white or grey foam rubber, 10 mm	☑	–	–
1 x red foam rubber, 10 mm	☑	–	–
2 x hose clips, 8-12 mm	☑	–	–
1 x spider	☑	–	–
2 x nail packers, 2-part	☑	–	–
1 x protective box	–	☑	☑
1 x red filling hose, 0.5 m	–	☑	☑
1 x white venting hose, 0.5 m	–	☑	☑
2 x coupler C11	–	☑	–
2 x yellow plugs	–	☑	☑
2 x heat-shrink hoses 11 mm, L=100 mm	–	–	☑
2 x nozzles 80 mm	–	–	☑

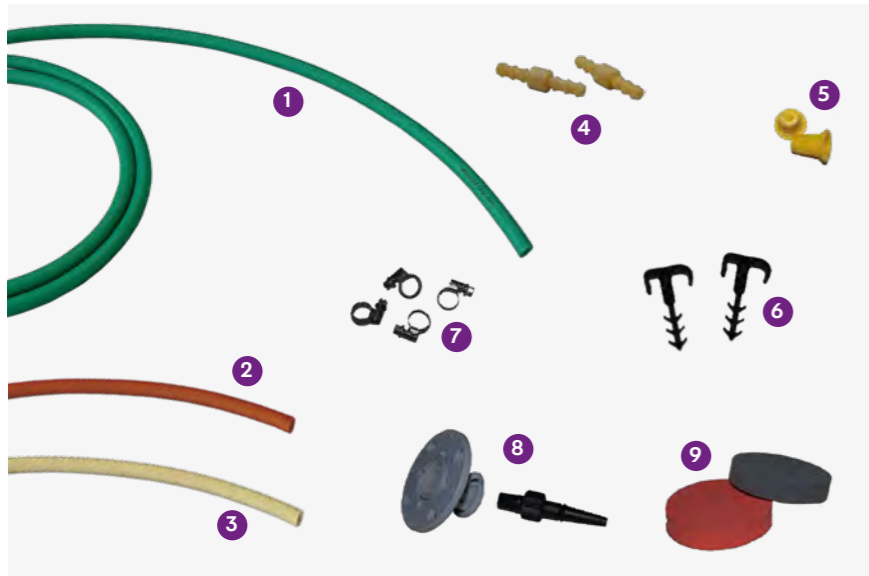
Emergency set for secondary sealing



Emergency set C11

Application e.g. as a secondary seal to correct unacceptable deviations in the construction joint seal, such as non-compliance with the minimum installation depth of coated seam sheets.

Set contents



- 1 PLURAFLEX C11, 1 x 50 m
- 2 Filling hose, red, 6 x 0.4 m
- 3 Venting hose, white, 6 x 0.4 m
- 4 Coupler C11, 12 pieces
- 5 Plug, yellow, 12 pieces
- 6 Plastic clips, 200 pieces
- 7 Hose clips, 36 pieces
- 8 Nail packer, two-part, 12 pieces
- 9 Foam rubber for nail packer, white/red, 6 pieces each



Notes

Content sufficient for a total of 50 m of injection length for installation variants routed underneath the formwork and with nail packers on formwork.



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System products for watertight concrete constructions



PENTAFLEX® sealing system

PENTAFLEX® is a joint sealing system for creating waterproof concrete structures (white tank). PENTAFLEX® seam sheets are fully coated on both sides with a special coating. The bond between the special coating and the fresh concrete reliably prevents water from infiltrating the joint system. They reliably seal all horizontal and vertical construction joints.



SWELLFLEX® Waterstop tapes

SWELLFLEX® waterstop tapes are a reliable addition to conventional joint-sealing systems. They seal joints in concrete structures that are permanently or occasionally exposed to water under pressure. The waterstop tapes are fully enclosed in fresh concrete when the building component is cast. When exposed to water, they swell and expand to seal the construction joint.



KUNEX® joint tapes

KUNEX® joint tapes reliably seal construction joints and expansion joints in watertight concrete. They guarantee an excellent mechanical bond between the concrete components and thereby create a reliable seal. The joint tapes are made from top-quality thermoplastic PVC-P. Building-specific joint tape designs can be custom made using factory-welded formed parts.



SECUFLEX® pre-applied waterproofing system

SECUFLEX® pre-applied waterproofing system is a full-surface HDPE waterproofing membrane sealing system used as an additional measure in watertight concrete structures. An adhesive layer combined with a special granulate creates an anti-tracking bond between the waterproofing layer and the concrete so that any cracks that occur in the watertight concrete construction are reliably bridged and remain permanently dry.

Our synergy concept for your benefit

With us, you benefit from the collective experience of three established manufacturers, who combine products and expertise in a comprehensive range. That is the PohlCon synergy concept.



Full-service consulting

Our extensive network of consultants is available to answer all your questions about our products on site. From planning to use, you can enjoy personal support from our qualified employees.



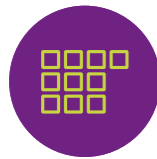
Digital solutions

Our digital solutions provide targeted support in planning with our products. From tender texts to CAD details and BIM data, right through to modern software solutions, we offer customized support for your planning process.



7 fields of application

We think in terms of holistic solutions. This is why we have combined our products into seven fields of application, where you can benefit from their synergy and the overall PohlCon product portfolio.



10 product categories

In order to find the right product in our extensive range even faster, we have divided our products into ten product categories. This way you can navigate unerringly between our products.



Individual solutions

No series product on the market is suitable for your project? We realize unique construction projects and exceptional challenges with the many years of expertise of the three manufacturing brands.



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