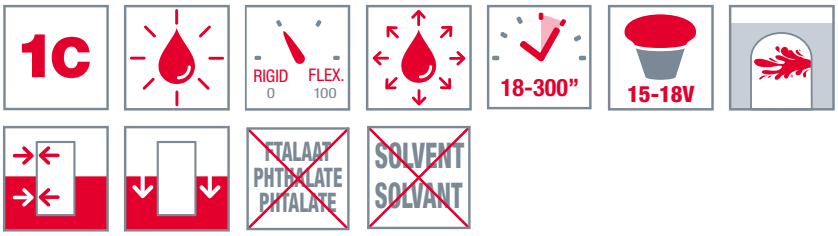
SPETEC® PU H100

SEMI RIGID INJECTION RESIN FOR SEALING LEAKING CRACKS AND JOINTS





DESCRIPTION

One component, closed cell, hydrophobic, water reactive, solvent and phthalate free, low viscosity polyurethane injection resin for stabilisation and water cut-off of large water leaks. In contact with water the SPETEC® PU H100 will expand and set as a permanent water seal inside the crack or joint.

ADVANTAGES

- Single component system.
- Different reaction times are possible by adjusting the percentage of SPETEC® H100 Acc (accelerator).
- Cured polyurethane exhibits high strength and good chemical resistance. (contact our Technical Service for more information)
- Cured polyurethane is harmless for the environment and resistant to biological attack.
- WQA potable water certification.

FIELD OF APPLICATION

- Water cut-off of large flow and high pressure water leaks.
- Water cut-off of water leaks in foundations such as diaphragm walls, piling sheets and secant piles.
- Stabilisation and water cut-off of large cracks, voids and gravel layers.
- Pre and post injections in mines, tunnels, pipe jacking, drill & blast and TBM applications.
- Injections in combination with cement-based grout, "combi-grouting".
- Crack and gravel layer injections in concrete structures.
- Soil stabilisation and anchors in porous geology.
- Water cut-off of sewer water leaks and sewer stabilisation.
- Probe Grouting for below grade pipes.
- Manhole Injections.

APPLICATION

Note: the following is a typical application description. In case of other jobsite parameters, please contact our technical department.

PRELIMINARY ANALYSES

For leaking joints, check how the joint runs into the construction. Injection holes have to be drilled into the joint.
For leaking cracks, drill the injection holes in a zig-zag pattern around the crack to make sure that the injection hole intersects with the crack.



REQUIRED TOOLS

Drill and drill bits of appropriate diameter and length.
Packers of appropriate diameter and length.
Manual, pneumatic or electric injection pump.

PREPARATION OF THE SUBSTRATE

Drill under an angle of 45° into the crack or joint. Ideally the injection hole should intersect the joint or crack about half way the thickness of the wall or slab.
Blow the dust out of the injection hole.
Fix a packer of the right diameter into the injection hole.

PREPARATION OF THE PRODUCT

Read the technical and safety data sheets prior to commencement of the injection works.
Vigorously shake the SPETEC® H100 Acc accelerator before use and add the required quantity (2-10%) into the SPETEC® PU H100 resin. Mix the accelerator homogeneously into the resin and protect against moisture and rain to prevent premature reaction.

PREPARATION OF THE EQUIPMENT

Depending on the application, injection can be carried out using a hand pump, pneumatic pump or electric pump.
Preferably use a separate pump for injection of water and PU resin.
Check that the pump is working properly.
Prior to injection, the pump must be flushed with SPETEC® PUMP CLEANER and be completely free of water to prevent pump blockage.

INJECTION

Start the injection at the first packer; for vertical joints or cracks this is usually the lowest packer.
Do not over pressurise while injecting; the correct injection pressure is the pressure that allows the resin to flow into the crack or joint.
Avoid injecting at pressures of more than 100 bars.
If unreacted resin comes out of the joint or crack, stop the injection and move on to the next packer.
After the last injection of resin into the packer, shoot a little bit of water into the packer in order to make sure that the last injected resin will react as well.
Only catalyse the resin you will use within the next few hours.
Do not let resin stay in the pump overnight.

FINISHING

After injection, remove the packers from the concrete and fill the holes with a fast setting cement or any other appropriate filler material.

APPLICATION CONDITIONS

Avoid injecting by temperatures below -20°C. In extreme cold conditions it is recommended to warm the resin and catalyst.

CLEANING AND MAINTENANCE

After the injection, clean the pump with SPETEC® PUMP CLEANER. If the pump will not be used for several days, put oil into the pump and leave it there until the next usage. Never rinse the pump with water.

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COMPLIMENTARY PRODUCTS

SPETEC® PUMP CLEANER
SPETEC® PACKERS & ACCESSORIES
CERMIPLUG

ADVICE / FOCAL POINTS

Water must always be present during the injection of SPETEC® PU H100 as it is a water-reactive resin.

TECHNICAL DATA

APPEARANCE

SPETEC® PU H100, uncured (appearance: brown liquid)		
Viscosity at 25°C	Brookfield SPIII / 200 rpm	±160 mPa.s
Density	EN ISO 2811-1	±1,06 kg/dm³

SPETEC® H100 Acc, Accelerator for SPETEC® PU H100 (appearance: yellow liquid)		
Viscosity at 25°C	Brookfield SPIII / 200 rpm	±15 mPa.s
Flash point		>150°C
Density	EN ISO 2811-1	±0,9 kg/dm³

REACTION TIMES

SPETEC® H100 Acc	5°C		15°C		25°C		
%	Start	End	Start	End	Start	End	Expansion
2	55"	300"	42"	170"	35"	110"	15V
6	35"	85"	32"	80"	25"	75"	17V
10	25"	65"	22"	60"	18"	50"	18V

CONSUMPTION

Consumption has to be assessed on site and is influenced by the amount of water leaking, thickness of the concrete slab or wall, presence of voids in and around the concrete etc.

TECHNICAL DATA

SPETEC® PU H100 + SPETEC® H100 Acc (Cured)		
Compressive strength	EN ISO 844	> 20 MPa
Flexural strength	EN ISO 1209	> 10 MPa
Density		± 1 kg/dm³

CHEMICAL RESISTANCES

Cured polyurethane exhibits good chemical resistance, is harmless for the environment and resistant to biological attack. (contact our Technical Service for more information)

REFERENCE DOCUMENTS

SPETEC® PU H100 is WQA drinking water approved.

PACKAGING

SPETEC® PU H100	5 kg	Metal cans	92 cans/pallet
	20 kg	Pails	24 pails/pallet
	200 kg	Steel drums	4 drums/pallet
SPETEC® H100 Acc	0,5 kg	Bottles	12 bottles/box 92 boxes/pallet
	2 kg	Bottles	4 bottles/box 44 boxes/pallet
	20 kg	Pails	24 pails/pallet

STORAGE AND SHELF LIFE

SPETEC® PU H100 is moisture sensitive and should be stored in a dry area between 5°C and 30°C.
Shelf life of the resin: 24 months in original packaging.
Shelf life of the accelerator: 24 months in original packaging
Once opened, containers should be used as soon as possible.

SAFETY PRECAUTIONS

Avoid contact with eyes and skin, always use personal protective equipment in compliance with local regulations.
Read the relevant Material Safety Data Sheet before use. Material Safety Data Sheets are available on www.spetec.com
When in doubt contact SPETEC® Technical Service.

Note: the information and recommendations provided in this technical data sheet is given in good faith and based on laboratory test and on the job experience of the manufacturer. In practice, site conditions and substrates might be such that the manufacturer cannot warrant the fitness for each individual purpose. The user of the product must test the product for it's intended use and ascertain himself that the product will work under the specific conditions of the jobsite. The manufacturer does not accept any liability based on the content of the technical data sheet. The user must verify that he holds the latest version of the technical data sheet. The manufacturer reserves the right to change the properties of the product. Products must be properly stored, handled and applied in line with manufacturer's recommendations. Version 1.0 Date: 23 November 2018 1:14 PM

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Gulkenrodestraat 3 - B-2160 Wommelgem - België
info@spetec.com - www.spetec.com - Tel.+32 3 320 02 11 - Fax+32 3 322 63 80