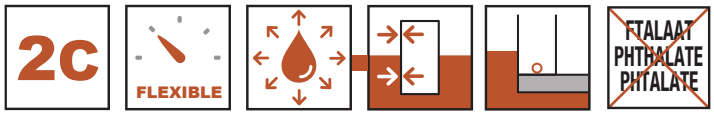
SPETEC® SEAL 2C100

HYCHEM
Infrastructure

VERY LOW VISCOUS, 2-COMPONENT, FLEXIBLE INJECTION RESIN FOR SEALING OR FILLING CRACKS, JOINTS AND VOIDS



Description

Two-component, hydrophobic, phthalate free, very low viscosity polyurethane injection resin.

Field of application

Injection for ductile (elastic, flexible) sealing and filling of cracks, joints and voids in dry, moisture and wet conditions for building construction, underground and civil engineering, such as:

- Concrete, brickwork and sewers where movement and settlement may occur.
- Foundations such as diaphragm walls, piling sheets and secant piles.
- Cracks and joints in tunnel segments.
- Curtain grouting behind tunnel, concrete, brickwork and sewer walls.
- Joints and cracks in water reservoirs and tanks.
- Injection of voids between concrete and membranes or liners in tunnels and sewers.
- Injection of preventively placed injection tubes or hoses.

Benefits

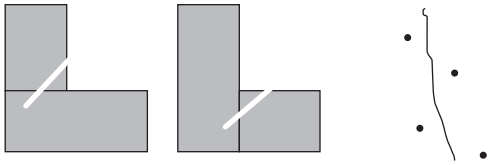
- High reactive 2-component
- Very low viscosity allows injection in microfine-cracks or small voids.
- Cured polyurethane is flexible, shrink-free and exhibits good chemical resistance (contact our Technical Service for more information).
- Resilient (returns completely to original shape when crushed)
- No expansion pressure
- Watertight
- Easy application with 1-component pump
- Cured polyurethane is harmless for the environment and resistant to biological attacks.

Application

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

Preliminary analyses

For joints, check how the joint is implemented into the construction. Injection holes have to be drilled adjacent to the joint. For 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
- Injection pump 1-component or 2-component pump with a stator mixer; manual, pneumatic or electric.

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Preparation of the substrate

- Before injection of the cracks, joints or voids, a technical inspection is needed to determine the inspection method. The method depends on the field of application, the type of structure, the substrate conditions, national standards and regulations.
- Drill under an angle of 45° into the crack or adjacent 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.
- Pour component A and B in a clean recipient. Mix mechanically (300-800 rpm) according to the mixing ratio (see section Technical Data), until both components are homogeneous.
- Pour the mix in the pump tank of the 1-component injection pump and remix thoroughly.
- When using a 2-component pump with stator mixer, premixing is not necessary and the two components are mixed in the mixing head of the pump.
- The pot life and workable time depends on the mixed product quantity and the ambient temperature.
- Only prepare that amount of product that can be processed.

Preparation of the equipment

- Depending on the application, injection can be carried out using a hand pump, pneumatic pump or electric pump.
- Check that the pump is working properly.
- Prior to filling the pump with the prepared product and the injection, the pump must be flushed with SPETEC® PUMP CLEANER.

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 to 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.
- When the temperature drops below the minimal application temperature of 6°C stop immediately the injection works.

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

Standard applicable between 6°C and 35°C. For applications outside these conditions, please contact our technical service.
It is recommended to warm up the resin and accelerator in extremely cold conditions.

Cleaning and maintenance

After the injection, clean the pump with SPETEC® PUMP CLEANER. Partially or completely cured product can only be removed mechanically. 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, when using a 1-component pump.

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Complimentary products

SPETEC® PUMP CLEANER
SPETEC® PACKERS & ACCESSORIES
CERMIPLUG
EPICOL T

Advice/Focal points

SPETEC® SEAL 2C100 is a non-water reactive resin.

Technical data

APPEARANCE

A-component	Light yellow Polyol mixture
B-component	Light brown Isocyanate mixture
Mix A : B	Light brown

TECHNICAL DATA

Mixing ratio	Component A : Component B	1 : 1,1 (by weight) 1 : 1 (by volume)
Density	EN ISO 2811-1	± 1.02 kg/dm^3
Viscosity at 20°C	EN ISO 3219 Brookfield SP3 – 200 rpm	± 85 mPa.s
Hardness (Shore A)	EN ISO 868	30 (after 16 h) 50 (after 35 d)

WORKABILITY & PERFORMANCE

State of the substrate / sub-soil	Dry, moisture, wet
Injectability – crack width	Min. 0.1 mm
Watertightness	Min. 2 x 10^5 Pa
Workable time (*)	± 50 min at 20°C
Expansion	nihil
Curing time (*)	60 – 100 min
Maximal reaction temperature (*)	± 65°C

(*) Depending on quantity and temperature

Consumption

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

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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

Packaging

SPETEC® SEAL 2C100	A- component	20 kg Pails	24 pails/pallet
	B- component	22 kg Pails	24 pails/pallet

Storage and shelf life

SPETEC® SEAL 2C100 should be stored in a dry area between +10°C and +25°C.
Shelf life of the resin: 12 months after production date, in original packaging.

Safety precautions

The products give off a characteristic smell during their production. Ensure adequate ventilation, do not inhale vapours, keep away from ignition sources and do not smoke.

Avoid skin contact. Eye irritation and/or hypersensitivity may occur with heavy vapour concentration, inhalation and/or skin contact.

Do not store food (beverage) in the same workspace. Always wear personal protective equipment according to applicable local guidelines and legislation. Gloves, safety glasses and face protection are mandatory.

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.

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