SPETEC® SEAL GT350

HYCHEM
Infrastructure

LOW VISCOSITY, FLEXIBLE, HYDROPHILIC INJECTION RESIN FOR SEALING LEAKING CRACKS AND JOINTS

Product description

MDI based hydrophilic, one-component, low viscosity, flexible, phthalate free, polyurethane injection resin for waterproofing. In contact with water the SPETEC® SEAL GT350 will expand and set as a permanent water seal inside the crack or joint.

Field of application

- Cut-off water leaks in concrete, brickwork and sewers where movement and settlement may occur.
- Water cut-off of water leaks in foundations such as diaphragm walls, piling sheets and secant piles.
- Sealing water-carrying cracks and joints in tunnel segments.
- Curtain grouting behind tunnel, concrete, brickwork and sewer walls.
- Injection of failing membranes and liners in tunnels and buildings.

Features

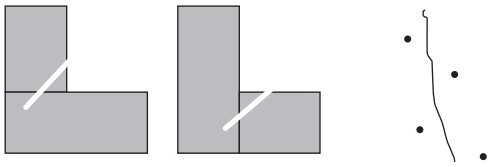
- 1 Component hydrophilic PU resin, additional waterproofing due to post expansion.
- Fast reaction with immediate increase of viscosity.
- Reaction can be set faster with SPETEC® Gen Acc.
- Can be injected as 1 component or 2 component in combination with water, maximum amount of water = 200%.
- Foam factor 4,5-7V.
- Cured polyurethane is highly flexible, ideally suited for structures where a high degree of settlement and movement can occur.
- 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 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 zigzag 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.

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Preparation of the product

- Read the technical and safety data sheets prior to commencement of the injection works.
- In case of reaction times needs to be faster than the standard, its possible to add accelerator SPETEC® Gen Ace to the resin.
- Vigorously shake the SPETEC® Gen Ace accelerator before use and add the required quantity (2-10%) into the SPETEC® SEAL GT350 resin.
- Mix the accelerator homogeneously into the resin and protect against moisture and rain to prevent premature reaction. Only prepare that amount of product that can be processed in one day.

Preparation of the equipment

- Depending on the application, injection can be carried out using a hand pump, pneumatic pump or electric pump.
- Use a 2-component pump with adjustable ratio for injection of SPETEC® SEAL GT350 with water.
- Check if 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.

Complimentary products

SPETEC® PUMP CLEANER
SPETEC® PACKERS & ACCESSORIES
CERMIPLUG
SPETEC® Gen Acc (optional)

Advice/Focal points

Water must always be present during the injection of SPETEC® SEAL G350 as it is a water-reactive resin.

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SPETEC® SEAL GT350

Technical data

APPEARANCE

SPETEC Seal GT350, uncured (appearance: white liquid)		
Viscosity at 25°C	Brookfield SP4 – 200rpm	±300 mPa.s
Density	EN ISO 2811-1	±1,16 kg/dm³

SPETEC Gen Ace, Accelerator for SPETEC Seal GT350 (appearance: yellow – orange liquid)		
Viscosity at 25°C	Brookfield SP3 – 200rpm	±75 mPa.s
Flash point		157°C
Density	EN ISO 2811-1	±1,05 kg/dm³

Technical data

REACTION TIMES

SPETEC Gen Acc	20°C		
%	Start	End	
0	45”	135”	7V
2	40”	90”	5V
5	35”	70”	4,5V
10	25”	60”	4,5V

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.

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

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Packaging

SPETEC® SEAL GT350	20 kg	Pails	24 pails/pallet
	200 kg	Steel drums	4 drums/pallet

SPETEC® Gen Acc	0.5 kg	Plastic Bottles	12 bottles/box 40 boxes/pallet
	2 kg	Plastic Bottles	4 bottles/box 44 boxes/pallet
	20 kg	Metal Cans	24 pails/pallet

Storage and shelf life

SPETEC® SEAL GT350 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.

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