SPETEC PUR HIGHFOAMER

FAST REACTING HIGH FOAMING SEMI-RIGID INJECTION RESIN FOR SEALING GUSHING LEAKS AND FILLING VOIDS

1C

1-Component

DESCRIPTION

SPETEC HIGHFOAMER is a one component, closed cell, hydrophobic, water reactive, solvent and phthalate free, low viscosity polyurethane injection resin for cutoff of large water leaks and void filling. In contact with water, SPETEC PUR HIGHFOAMER will react and expand quickly.

USES

- Water cut-off of large flow and high pressure water leaks.
- Stabilizations 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.
- Crack and gravel layer injections in concrete structures.
- Soil stabilization and anchors in porous geology.
- Water cut-off of sewer water leaks and sewer stabilization.
- Probe grouting for below grade pipes.
- Void filling.
- Seawall repair.
- Chemical wall for erosion control of beachfront properties and land masses that do not have a seawall or water barrier.

ADVANTAGES

- Single component
- Different reaction times are possible by adjusting the percentage of GEN ACC or GEN ACC Special accelerator.
- Cured polyurethane is semi-rigid and exhibits high strength and good chemical resistance. (contact our Technical Service for chemical resistance)
- Cured polyurethane is harmless for the environment and resistant to biological attack.
- Up to 40x - 50x expansion
- **Certified to NSF 61-5 (Approved for contact with drinking water).**

NSF/ANSI 61-5

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 staggered pattern along the crack to make sure that the injection holes intersect the crack from both sides.

PREPARATION OF THE SUBSTRATE

Drill at 45° angle into the crack or joint. Ideally the injection hole should intersect the joint or crack half way through the thickness of the wall or slab. Blow the dust out of the injection hole with a probe that reaches the back of the hole. Insert a packer of the same 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 GEN ACC accelerator before use and add the required quantity (2-10%) into the SPETEC PUR HIGH FOAMER resin. Mix the accelerator homogeneously into the resin and protect against moisture and rain to prevent premature reaction. Only mix the amount of material that will be used. Catalyzed material cannot be stored.

PREPARATION OF THE EQUIPMENT

Depending on the application, injection can be carried out using a hand pump, pneumatic pump or electric pump. Use separate pumps for injection of water and polyurethane resin. Check that the pump is working properly. Prior to injection, the resin pump must be flushed with appropriate pump flush and be completely free of water to prevent pump blockage.

APPLICATION

- Start the injection at the lowest packer on vertical cracks, or at the first packer in either direction on horizontal cracks.
- Do not over-pressurize 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 1500psi (100bar).
- If unreacted resin comes out of the joint or crack, stop the injection and move on to the next packer.
- After resin injection is completed in a packer, inject a small amount of water to ensure remaining resin is reacted.
- Only catalyze the resin you will use within the next few hours.
- Do NOT leave resin catalyzed with GEN ACC in pumps overnight or material will harden and permanently damage equipment.
- Always flush the pump out at the end of the day. Resin left in the pump overnight can damage the pump.

REQUIRED TOOLS

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

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. After injection, remove the packers from the concrete and fill the holes with an appropriate fast-setting patching material.

COMPLIMENTARY PRODUCTS

Pump Cleaner, Oakum, Injection Needle.

ADVICE / FOCAL POINTS

Avoid injecting in temperatures below freezing. In extremely cold conditions, it is recommended to warm the resin and catalyst. Since SPETEC® PUR HIGHFOAMER is water-reactive, liquid water should be present.

TECHNICAL DATA

APPEARANCE

SPETEC® PUR HIGHFOAMER Uncured (Appearance brown liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 215 cP (± 215 mPa.s)
Density	(ASTM D3505-96 [2000])	± 65.9 lbs/ft³ (± 1.12 kg/dm³)

SPETEC® Gen Acc, Accelerator for SPETEC® PUR HIGHFOAMER (Appearance: yellow - orange liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 75 cP (± 75 mPa.s)
Flash point	(ASTM D1310-86)	313°F (156°C)
Density	(ASTM D3505-96 [2000])	± 65.5 lbs/ft³ (± 1.05 kg/dm³)

SPETEC® Gen Acc Fast, Accelerator for SPETEC® PUR HIGHFOAMER (Appearance: yellow - orange liquid)		
Viscosity at 77°F (25°C)	(ASTM D4878-98)	± 70 cP (± 70 mPa.s)
Flash point	(ASTM D1310-86)	313°F (156°C)
Density	(ASTM D3505-96 [2000])	± 65.5 lbs/ft³ (± 1.05 kg/dm³)

REACTION TIMES

SPETEC® Gen Acc	41°F (5°C)			59°F (15°C)			77°F (25°C)		
%	Start	End		Start	End		Start	End	
5	18 sec.	95 sec.	40V	18 sec.	78 sec.	40V	14 sec.	55 sec.	49V
8	15 sec.	60 sec.	42V	14 sec.	51 sec.	42V	10 sec.	43 sec.	49V
10	15 sec.	48 sec.	42V	11 sec.	41 sec.	42V	8 sec.	35 sec.	49V

SPETEC® Gen Acc Fast	41°F (5°C)			59°F (15°C)			77°F (25°C)		
%	Start	End		Start	End		Start	End	
5	19 sec.	75 sec.	42V	14 sec.	57 sec.	45V	9 sec.	43 sec.	49V
8	15 sec.	40 sec.	42V	10 sec.	35 sec.	45V	7 sec.	30 sec.	49V
10	10 sec.	35 sec.	42V	8 sec.	28 sec.	45V	5 sec.	22 sec.	49V

Properties will vary depending on application conditions.

ESTIMATING QUANTITIES

Consumption is dependent on jobsite conditions such as amount of water, thickness of concrete, temperature, amount of catalyst, and expansion rate listed in Reaction Times.

PACKAGING

SPETEC® PUR HIGHFOAMER is packaged in standard 5 gallon (18.9 liter) pails. 55 gallon (208.2 liter) drums and 250 gallon (946.35 liter) totes available upon request.

GEN ACC is packaged in 0.5 gallon (1.89 liter) bottles and 5 gallon (18.9 liter) pails.

SHELF LIFE AND STORAGE

SPETEC® PUR HIGHFOAMER is moisture sensitive and should be stored in a dry area between 40F (5C) and 86F (30C). 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 Safety Data Sheet before use. Safety Data Sheets are available on www.alchemy-spetec.com
When in doubt contact Alchemy-Spetec Technical Service.

FOR INDUSTRIAL USE ONLY. KEEP OUT OF REACH OF CHILDREN. NOT FOR INTERNAL CONSUMPTION. READ SAFETY DATASHEET PRIOR TO EVERY USE.

© 2020 Alchemy-Spetec. All rights reserved