Gelacryl SR

Gelacryl SR is an acrylic based monomer resin designed for controlling water infiltration in sewers and for stabilising or coagulating a variety of loose soils.

• field of application

- Sewer joint repair (manual or automated method).
- Water control during tunnelling operations.
- Waterproofing of underground structures in concrete or masonry.

• advantages

- Gelacryl SR is injected with a twin piston, 1/1 ratio pump.
- Gelacryl SR is delivered on site with a composition of 45% solids which can be diluted to 12% solids, depending on the nature of the application. In diluting the basic material, the viscosity can be adapted depending on the site requirements.
- The low viscosity of Gelacryl SR ensures a deep penetration in the joint and the soil around the joint.
- Exhibits very low permeability for long lasting waterproofing.
- Non-flammable and non-explosive.
- No environmental labelling required.
- Poly-acrylate resin, free of acrylamides.
- Has a very good overall chemical resistance and is resistant to petroleum, mineral/vegetable oils and greases(*).

• description

Gelacryl SR is an acrylic based hydrophilic gel, consisting of 2 components: a resin component and an initiator component which are pumped with a twin piston pump at a 1/1 ratio. Once polymerised, Gelacryl SR forms a resilient, elastomeric gel.

Resin : Gelacryl SR.
Catalyst : TE 300.
Initiator : SP 200.
Decelerator : KF 500.

• application

Consult the MSDS before mixing and/or handling. Before entering a manhole/sewer, a toxic gas emission check with appropriately calibrated measuring instruments should be performed.

1. Composition

- The injection grout needs to be prepared immediately before the injection. Do not dilute the resin to less than 12 % solids when injecting.

Component 1	Component 2
Water Gelacryl SR TE 300	Water SP 200

After preparation, the components are injected simultaneously at a ratio of 1/1.

2. Preparation

Component 1

- Gelacryl SR vessel. The tank is half filled with water, Gelacryl SR resin and TE 300 catalyst are added in sequence and thoroughly mixed.

Component 2

- SP 200 vessel. The vessel is first filled with water after which the SP 200 initiator is added. The mixture is thoroughly mixed.

3. Gel times (typical mixtures)

- Depending on the concentrations of TE 300 catalyst and SP 200 initiator in their respective blends, varying gel times can be obtained. Air, material and background temperatures will also influence gel times. The pH and the nature of the injection substrate will also affect gel times. The following typical gel times can be obtained by mixing the components according to the following formulations.

Temp. (°C)	Vessel 1			Vessel 2			Gel time
	Gelacryl SR (kg)	Water (l)	TE 300 (l)	Water (l)	SP 200 (kg)	SP 200 bottles	
5	25	18,5	3,50	40	1,575	3,5	35 sec.
5	25	18,5	2,60	40	1,35	3	50 sec.
10	25	18,5	2,90	40	1,125	2,5	36 sec.
10	25	18,5	2,90	40	0,90	2	52 sec.
15	25	18,5	2,30	40	1,125	2,5	36 sec.
15	25	18,5	1,50	40	0,675	1,5	78 sec.
20	25	18,5	1,90	40	0,9	2	29 sec.
20	25	18,5	1,10	40	0,675	1,5	65 sec.
25	25	18,5	1,50	40	0,675	1,5	37 sec.
25	25	18,5	0,90	40	0,675	1,5	66 sec.

- For civil engineering applications that require 5 to 30 minutes gel time, the decelerator KF 500 can be used. For 30 minute gel time at 15°C, 500 ppm of KF 500 is used with 0,5% TE 300 and 0,5% SP 200 as defined in the following formulation:

	Weight (%)	Weight (kg)
Grout Tank		
Water	19	43
Gelacryl SR	30	67,5
TE 300	0,5	1,1
KF 500	0,5	1,1
SP Tank		
Water	49,5	111,2
SP 200	0,5	1,1
Totals	100	225

4. Injection

- The injection work should be carried out with a twin piston, 1/1 ratio pump (IP 2C-200-A) or special sewer injection equipment. Please read relevant Technical Data Sheet. For injection procedure, please read Injection Manual.

• technical data/properties

Property	Value	Norm
Gelacryl SR		
Density	Approx. 1,17 kg/dm^3	ASTM D-1638
Viscosity	Approx. 20 mPas at 25°C	ASTM D-1638
Solids	Approx. 45%	ASTM D-1010
Boiling Point	93°C	Test DNC
Solubility in water	100 %	Test DNC
Catalyst TE 300		
Concentration	Approx. 85%	Test DNC
Initiator SP 200		
Density	Approx. 1,9 kg/dm^3	ASTM D-1638
Solubility in water	Approx. 79%	Test DNC
Decelerator KF 500		
Concentration	10 %	Test DNC
Dilution	Clean tap water	
Mixed grout based on a 12% solids mixture		
Viscosity	Approx 3 mPas at 20 °C	ASTM D-1638
Density	1,04 kg/dm^3	ASTM D-1638
Cured resin based on a 12% solids mixture		
Solubility	Insoluble in water and petroleum derivates.	Test DNC
Expansion in contact with water	Slight expansion	Test DNC
Dehydration	Stable in 100% humidity, Can dehydrate in dry conditions.	Test DNC

Resistant to bacteria, fungi and chemicals generally found in sewer systems

• appearance

Gelacryl SR Resin : Yellow transparent liquid.
TE 300 : Transparent liquid.
SP 200 : White salt.
KF 500 : Orange liquid.

After curing, product turns into a flexible gel, which remains flexible under water.

• consumption

Has to be estimated by the engineer or operator and depends on width and depth of the cracks and voids to be filled.

• packaging

Gelacryl SR
- 25 kg plastic jerry-can.
- 1 pallet = 24 plastic jerry-cans.

TE 300
- 25 kg plastic jerry-can.
- 1 pallet = 24 plastic jerry-cans.

SP 200
- 0,45 kg plastic bottle.
- 1 box = 22 bottles.
- 1 pallet = 24 boxes.

KF 500
- 25 kg plastic jerry-can.
- 1 pallet = 24 jerry-cans.

• storage

Gelacryl SR, TE 300, SP 200 and KF 500 should be stored under cover, clear of the ground, in the original closed containers.

Storage temperature must be below 35°C.

Shelflife: 1 year.

• accessories

<u>To be ordered separately</u>

- IP 2C-200-A air driven twin piston pump.
- Packers and connectors.
  (Please consult the relevant Technical Data Sheet).

• health & safety

Gelacryl SR is slightly irritating but not toxic. Always wear appropriate protective gear: rubber gloves, goggles and boots. If the grout comes in contact with the skin, it should be washed off immediately with water. The grouting truck must be ventilated when mixing Gelacryl SR grout. Avoid prolonged breathing of the grout vapour. Use a blower and flexible duct to ventilate the bottom of manholes being grouted. In case of contact with the eyes, flush with water for 15 minutes. If swallowed, call a physician immediately.

For full information, consult the relevant Material Safety Data Sheet.

(*) For chemical resistances, please contact your De Neef representative.

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