

DE NEEF[®] Gelacryl Superflex AR

2-component acrylic based injection system developed for waterproofing injections into joints, cracks, pores, capillaries, voids and honeycombed concrete.

Product Description

Gelacryl Superflex AR is a 2-component polyacrylate gel. The A-component is a poly-acrylate resin, the B-component is a polymer blend. The 2-components are injected with a 2-component 1:1 ratio piston pump. Once polymerised, Gelacryl Superflex AR forms a resilient, highly elastomeric gel.

Resin = Gelacryl Superflex.

Polymer blend B-component = Gelacryl AR2.

Accelerator = TE300.

Initiator = SP200 RI.

Advantages

- Gelacryl Superflex AR injection systems are injected with a twin piston, 1/1 ratio pump.
- Exceptionally low viscosity. Gelacryl Superflex AR penetrates into cracks 0,1 mm wide.
- Excellent post-expansion properties in contact with water.
- Gelacryl Superflex AR does not need continuous contact with water.
- Excellent adhesion to concrete.
- Very good chemical resistance to most acids, alkalis and biological attack (*).
- Can be used in temperatures ranging from 5 °C to 70 °C.
- Polyacrylate resin, free of acryl-amides.

Fields of application

- Waterproofing crack and joint injections in reinforced concrete according to EN1504-5 (S) together with Gelacryl AR2 and SP200 RI.
- Remedial repair of water leaks.
- Preventative waterproofing of structures.
- Water control during tunnelling operations.
- Curtain grouting.
- Waterproofing subterranean structures in concrete or masonry (cellars, underground car parks, etc.).
- Waterproofing cracks in concrete or rock.
- Waterproofing tunnel segments.
- Waterproofing tunnel liners.
- Expansion joints with small movement.

Application

Consult the MSDS before mixing and/or handling.

- The injection grout needs to be prepared immediately before the injection. Both components are pre-weighted, no further dilution of component 2 with water is required. Prior to injection only the additives need to be added to both components.
- Component 1 Gelacryl Superflex component
- Add the required quantity of TE300 accelerator. Gelacryl Superflex resin and TE 300 need to be thoroughly mixed.
- Component 2 Gelacryl AR 2 component
- Slowly and under continuous mixing to avoid lumps, add the required quantity of SP200 RI. Mix well.

Component A	Component B
Gelacryl Superflex	Gelacryl AR2
TE300	SP200 RI

Typical formulations/gel times

Temperature	Gelacryl Superflex (l)	TE300 (l)	Gelacryl AR2 (l)	SP200 RI (kg)	SP200 RI (bottles)	Gel time in minutes
5°C	21	0.80	21	1.575	1.75	1'
	21	0.85	21	1.35	1.5	2'
	21	0.375	21	1.125	1.25	5'
10°C	21	0.715	21	1.125	1.75	1'
	21	0.50	21	0.675	0.75	2'
	21	0.335	21	0.675	0.75	5'
15°C	21	0.60	21	0.675	0.75	1'
	21	0.45	21	0.45	0.5	2'
	21	0.325	21	0.45	0.5	5'
20°C	21	0.59	21	1.125	1.25	1'
	21	0.40	21	0.45	0.5	2'
	21	0.295	21	0.45	0.5	5'
25°C	21	0.45	21	0.45	0.5	1'
	21	0.35	21	0.225	0.25	2'
	21	0.25	21	0.225	0.25	5'

For gel times at higher temperatures, please contact your DE NEEF partner.

Injection

- The injection work should be carried out with the DE NEEF®IP 2C-Gel twin piston, 1/1 ratio high pressure pump.

Surface preparation

- Remove surface contaminants and debris to establish the pattern of the crack or joint. Cracks need to be sealed with an approved method. • Drill holes of the correct diameter for the selected packer. Drill at an angle of 45°. Preferably the holes should be drilled staggered around the crack to insure good coverage of the crack in case it is not perpendicular to the concrete surface.
- The depth of the bore should be approximately half of the thickness of the concrete. As a rule of thumb the distance of the drill point from the crack is 1/2 the wall thickness.
- Distance between holes can vary by 15 to 90 cm, depending on the actual situation.
- Insert the correctly sized packer into the hole up to 2/3 of its length. Tighten with a wrench or spanner by turning clockwise until enough tension has been reached to keep the packer in place during injection.
- Flush the crack with water before injecting with resin. This will flush out dust, debris and prime the crack for the injection resin and improve penetration of the product into the crack.

Injection

- Start the injection at the first packer.
- Start injecting at the lowest pressure setting of the pump. Slowly increase the pressure until the resin begins to flow. Pressures may vary depending on the size of the crack, the thickness of the concrete and the general condition of the concrete.
- A little leakage of resin through the concrete or crack is useful in showing the extent of resin travel. Large leaks should be plugged with rags, wait for the resin to set, then inject again.
- During the injection water will first flow from the crack, followed by foaming resin. After this, pure resin will flow from the crack.
- Stop pumping when the pure resin reaches the next packer.
- Move to the next packer and repeat the procedure.
- After injecting through a few of the packers, go back to the first one and re-inject with resin.
- Let the resin cure thoroughly before removing packers. The resulting holes can be filled with hydraulic cement.
- When the injection is finished, clean all tools and equipment which have been in contact with the resin with water.
- Products should be disposed according to local legislation.

Technical Data / Properties

Property	Unit	Value	Standard
Gelacryl Superflex resin			
Density at 21 °C	Kg/dm ³	Approx. 1.186	EN ISO 2811
Viscosity at 21 °C	mPas	Approx. 25	EN ISO 3219
Solids	%	Approx. 45	EN ISO 3251
Boiling point	°C	100 °C	Internal test
Gelacryl AR2			
Viscosity at 21 °C	mPas	Approx. 34.5	EN ISO 3219
Density	Kg/dm ³	Approx. 1.019	EN ISO 2811

Solids	%	Approx. 50	ISO 3251
TE300			
Density at 21 °C	Kg/dm ³	Approx. 1.120	ISO 2811
Solids	%	Approx. 85	ISO 3251
SP200 RI			
Density at 21 °C	Kg/dm ³	Approx. 1.900	ISO 2811
Solubility	%	Approx. 79	Internal test
Reacted gel			
Resistance against hydrostatic pressure	Bars	7	EN 14068
Workability	mPas	< 60	ISO 3251
Expansion in contact with water	%	Approx. 150	EN 14498

Appearance

Gelacryl Superflex resin: blue liquid.

Gelacryl AR2: white liquid.

TE300: transparent liquid.

SP200 RI: white Salt.

The product cures into a flexible rubber.

Consumption

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

Packaging

Gelacryl Superflex

- 25 kg plastic jerry can = 21 l.
- 1 pallet = 24 jerry cans.

Gelacryl AR2

- 21 kg plastic jerry can = 21 l.
- 1 pallet = 24 jerry cans.

TE300

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

SP200 RI

- 0,90 kg plastic bottle.
- 1 box = 10 bottles.
- 1 pallet = 24 boxes.

Storage

Gelacryl Superflex, Gelacryl AR2, TE 300 and SP200 RI should be stored in a frost-free environment under cover, clear of the ground, in the original closed containers.

The storage temperature must be below 35°C.

Shelf life: 1 year.

Accessories

To be ordered separately

- IP 2C-Gel pneumatic twin-piston pump.
- Packers and connectors.

(Please consult the relevant Technical Data Sheet)

Health & Safety

Users must read and understand the product label and safety data sheet (SDS) for each system component before use. All users should acquaint themselves with this information prior to working with the material. Carefully read detailed precaution statements on the product label and SDSs before use. The most current SDSs can be obtained from the GCP website at gcpat.com or by contacting GCP at +1-703-741-5970.

De Neef Construction Chemicals BV Industriepark 8 B-2220 Heist-op-den-Berg Belgium 11	
EN 1504-5 Concrete Injections Swelling fitted filling U S(2) W(1) (1/2/3) (5/40)	
Water tightness	7x105 Pa
Workability	≤ 60 mPas

Corrosion behaviour	Deemed to have no corrosive effect
Expansion rate and evolution by water storage	69%
Durability – Sensitivity to water	Complies
Durability – Sensitivity to wet-dry cycles	Complies
Durability – Compatibility with concrete	Complies
Release of dangerous substances	Complies with 5.4

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