

GELACRYL™ AR

Poly-acrylate injection system with improved wet-dry characteristics using standard Gelacryl resins combined with a polymer blend reinforcing agent

Product Description

GELACRYL™ Acrylic Rubbers are 2-component poly-acrylate gels. 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™ Acrylic Rubbers form a resilient, highly elastomeric gel. Due to their exceptionally low viscosity and low surface tension, GELACRYL™ Acrylic Rubbers show better penetration into cracks than water

- Resin = GELACRYL™/GELACRYL™ SR/GELACRYL™ Superflex
- Polymer blend = GELACRYL™ AR2
- Catalyst = TE 300
- Initiator = SP 200
- Decelerator = KF 500

Product Advantages

- GELACRYL™ AR injection systems are injected with a twin piston, 1:1 ratio pump.
- Exceptionally low viscosity. GELACRYL™ AR penetrates into cracks 0.1 mm wide.
- Excellent post-expansion properties in contact with water.
- GELACRYL™ AR does not need continuous contact with water.
- Excellent adhesion to concrete when GELACRYL™ Superflex is used.
- Very good chemical resistance to most acids, alkalis and biological attack (*).
- Can be used in temperatures ranging from 5 °C to 70 °C.
- Poly-acrylate resin, free of acryl-amides.

(*). For chemical resistances please contact your GCP representative.

Field of Application

GELACRYL™ Acrylic Rubbers are used in applications where fluctuating groundwater levels are encountered. The addition of the polymer blend in the B-component improves the wet-dry characteristics of the cured compound.

GELACRYL™/GELACRYL™ Superflex

- 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.
- Dilatation joints with small dilatation (GELACRYL™ Superflex)

GELACRYL™ SR

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

Application

Consult the Material Safety Data Sheet (MSDS) before mixing and/or handling.

- GELACRYL™ Acrylic Rubbers are developed to be used below ground in applications with a fluctuating groundwater level.
- Holes are drilled in the affected area.
- Water can be forced into the hole to determine whether all cracks can be injected and if additional injection/pressure control holes need to be drilled.
- Visible surface leaks and cracks should be sealed with a fast setting cement prior to injection. Allow the cement to harden completely before injecting GELACRYL™ Acrylic Rubbers.
- Use standard packers or equipment according to local standards.
- GELACRYL™ Acrylic Rubbers is then injected into the holes with a high pressure pump capable of reaching pressures up to 200 bars. This forces the GELACRYL™ Acrylic Rubber deep into the structures and allows penetration into the smallest cracks.
- When surface leaks show up during pumping, stop immediately and seal the leak by approved method.

1. Composition

- 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.
- After preparation, the components are injected simultaneously in a ratio of 1:1.

2. Preparation

Component 1

- Add the required quantity of TE 300 catalyst to the GELACRYL™ resin. GELACRYL™ resin and TE 300 need to be thoroughly mixed. In case of using GELACRYL™ SR, an additional amount of water needs to be added to Component 1.

Component 2

- The tank is first filled with the same quantity of GELACRYL™ AR2. Then slowly and under continuous mixing to avoid lumps, add the required quantity of SP 200. Mix well at 600 rpm.
- The components should only be prepared immediately before use of the grout. We do not recommend preparation in advance.
- As soon as temperatures of the environment or material reach 20°C or higher, the resin and grout need to be regularly oxygenated by passing compressed air through the containers

3. Typical Formulations/Gel Times

GELACRYL™

T (°C)	GELACRYL™ (L)	TE 300 (L)	GELACRYL™ AR2 (L)	SP 200 (KG)	SP 200 (BOTTLES)	GEL TIME
5°C	42	1.60	42	1.58	3.5	1'
5°C	42	0.75	42	1.13	2.5	5'
5°C	42	0.67	42	0.45	1	10'
5°C	42	0.59	42	0.23	0.5	30'
10°C	42	1.35	42	1.13	2.5	1'
10°C	42	0.67	42	0.68	1.5	5'
10°C	42	0.59	42	0.45	1	10'
10°C	42	0.50	42	0.12	0.25	30'
20°C	42	1.18	42	1.13	2.5	1'
20°C	42	0.59	42	0.45	1	5'
20°C	42	0.50	42	0.23	0.5	10'
20°C	42	0.42	42	0.23	0.5	30'

GELACRYL™ SR

T (°C)	GELACRYL™ SR (L)	WATER (l)	TE 300 (L)	GELACRYL™ AR2 (L)	SP 200 (KG)	SP 200 (BOTTLES)	GEL TIME
5°C	21	18.5	1.95	42	1.80	4	1'
5°C	21	18.5	1.00	42	0.90	2	5'
5°C	21	18.5	0.80	42	0.68	1.5	10'
5°C	21	18.5	0.70	42	0.45	1	30'
10°C	21	18.5	1.80	42	1.13	2.5	1'
10°C	21	18.5	0.70	42	0.68	1.5	5'
10°C	21	18.5	0.60	42	0.45	1	10'

10°C	21	18.5	0.40	42	0.23	0.5	30'
20°C	21	18.5	1.30	42	1.13	2.5	1'
20°C	21	18.5	0.60	42	0.45	1	5'
20°C	21	18.5	0.40	42	0.45	1	10'

GELACRYL™ Superflex

T (°C)	GELACRYL™ SUPERFLEX (L)	TE 300 (L)	GELACRYL™ AR2 (L)	SP 200 (KG)	SP 200 (BOTTLES)	GEL TIME
5°C	42	1.60	42	1.58	3.5	1'
5°C	42	0.75	42	1.13	2.5	5'
5°C	42	0.67	42	0.45	1	10'
5°C	42	0.59	42	0.23	0.5	30'
10°C	42	1.43	42	1.13	2.5	1'
10°C	42	0.67	42	0.68	1.5	5'
10°C	42	0.59	42	0.45	1	10'
10°C	42	0.50	42	0.12	0.25	30'
20°C	42	1.18	42	1.13	2.5	1'
20°C	42	0.59	42	0.45	1	5'
20°C	42	0.50	42	0.23	0.5	10'

4. Injection

- The injection work should be carried out with the DE NEEF® IP 2C-200-A twin piston, 1:1 ratio high pressure pump, suitably modified for use with the GELACRYL™ AR System.

Consumption

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

Technical Data / Properties

PROPERTY	VALUE	NORM
GELACRYL™ Resins		
See respective technical data sheet for full technical data properties.		
GELACRYL™ AR2		
Density	± 1kg / dm ³	ASTM D-1638

Viscosity (@ 25 °C)		< 40 mPas		ASTM D-1638
Solids		±50 %		ASTM D-1010
Cured form Acrylic Rubber	GELACRYL™	GELACRYL™ SR	GELACRYL™ Superflex	
Elongation at Break	80 %	20 %	200 %	ASTM 638
Post-expansion in contact with water	70 %	55 %	160 %	Test DNC

Appearance

After curing, product turns into a flexible rubber.

GELACRYL™ Resin:	Green liquid
GELACRYL™ SR Resin:	Transparent liquid
GELACRYL™ Superflex Resin:	Blue liquid
GELACRYL™ AR2:	White liquid
TE 300:	Transparent liquid
SP 200:	White salt
KF 500:	Orange liquid

Packaging

GELACRYL™ Resins

25kg plastic jerry can	21L
1 pallet	24 jerry cans

GELACRYL™ AR2

21kg plastic jerry can	21L
1 pallet	24 jerry cans

TE 300

25kg plastic jerry can	
1 pallet	24 jerry cans

SP 200

0.45kg plastic bottle

1 box	22 bottles
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1 pallet	24 boxes
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KF 500

25kg plastic jerry can

1 pallet	24 jerry cans
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Storage

GELACRYL™ resins, GELACRYL™ AR2, TE 300, SP 200 and KF 500 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-200-A air-driven twin piston pump.
- Packers and connectors.

(Please consult the relevant Technical Data Sheet).

Health and Safety

GELACRYL™ resins are slightly irritating.

GELACRYL™ AR2 is not classified.

TE 300 is classified as irritant.

SP 200 is classified as harmful/oxidising.

Always wear appropriate protective gear: rubber gloves, safety goggles and boots.

Always avoid prolonged breathing of the grout vapours. Use a fresh air blower and flexible ducts in any confined or badly ventilated area.

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.

North America customer service: 1-877-4AD-MIX (1-877-423-6491)

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gcpat.uk/solutions/products/de-neef-waterproofing-injection-solutions/gelacryl-ar