

DE NEEF® Gelacryl Superflex AR Data Sheet

Methacrylic Acrylate Copolymer

Product Description

DE NEEF® Gelacryl Superflex AR is a system composed of DE NEEF® Gelacryl Superflex methacrylic acrylate copolymer resin and DE NEEF® Reinforcing Agent. This system combines the low viscosity of traditional acrylate resins with 300% elongation, excellent adhesion and reduced shrinkage. Its low viscosity makes it ideal for injection into pores, capillaries, hairline cracks, and honeycombed concrete. DE NEEF® Gelacryl Superflex AR's low surface tension also allows for penetration into even clayey- silt soils, making it an excellent choice for curtain wall grouting. It may also be used in combination with DE NEEF® Reinforcement Foam in the DE NEEF® Gelacryl Superflex Joint System. (Formerly called GASFAR Joint System.)

Product Advantages

- Low viscosity – penetrates into fine cracks
- Reinforcing agent provides reduced shrinkage
- NSF/ANSI 61 Certified for use with potable water
- Non-corrosive and non-toxic
- Insoluble in water and petroleum-based solvents once cured.
- Resistant to most acids and alkalis
- Excellent thermal resistance between 40°F - 160°F
- Reaction time can be controlled

Product Applications

DE NEEF® Gelacryl Superflex is designed for use in any below ground structure or any water retaining structure, where there is permanent moisture. Especially well-suited for:

- Hairline and spider cracks in concrete
- Re-injection of failed polyurethane
- Grout Expansion & moving joints
- Honeycombed concrete
- Curtain grouting
- Potable water applications

Installation Guidelines

Mixing:

“A” Side: In a clean, pail pour desired amount of DE NEEF® Gelacryl Superflex resin and add TE 300 in accordance with the Mix Ratio table to achieve the desired set time. Mix well.

“B” Side: In a separate clean pail, pour clean water to a volume of 1/2 the DE NEEF® Gelacryl I Superflex resin previously poured. Add SP 200 in accordance with Mix Ratio Table and mix well. Add an equal amount of DE NEEF® Reinforcing Agent to the water and SP 200 mixture so that the total volume equals that of the DE NEEF® Gelacryl Superflex resin on the “A” side. Mix well.

Pumping:

DE NEEF® Gelacryl Superflex AR System is pumped at 1:1 through a pump with all stainless steel wetted components. Always begin at the lowest pressure setting available on the pump and increase to the minimum pressure required to get desired resin flow.

Crack Injection:

For concrete crack injection applications consult DE NEEF® Standard Crack Injection Procedures. Due to the ultra-low viscosity of the Superflex AR resin, larger cracks may require application of a surface seal such as hydraulic cement or epoxy.

Curtain Wall Grouting:

For curtain grouting applications consult DE NEEF® Standard Curtain Grouting Procedures. Adjust set time to allow for permeation through soils surrounding the structure.

Confirm product performance in specific chemical environment prior to use.

Installation Instructions

Superflex Joint System:

1. For joints less than 1”, remove joint fillers and clean the faces of joint to a minimum of 3” depth. For joints wider than 1”, clean to a minimum depth of 3 times the width of the joint.
2. If sealant is to be applied at top of joint, apply bond breaker tape to the side of the joint to the depth the sealant will be applied.
3. Install a urethane soaked layer of oil-free oakum or open cell backer rod in bottom of joint.
 - Cut rod or oakum to 20”-30” lengths. For rods over 1” in diameter, cut a split lengthwise down the rod its full-length to insure proper grout absorption.
 - Saturate rod or oakum with water. Work water into oakum strands.
 - Wring out rod or oakum, leaving wet.
 - After rod or oakum has been wrung out, place rod or oakum in urethane grout by DE NEEF® and allow resin to penetrate all pores of rod or strands of oakum.
 - Spray joint with water
 - Place the soaked backer rod or oakum in the joint.
4. Place reticulated foam on top of backer rod.

5. Install INJECTO[®] Tube on top of reticulated foam and top with another layer of reticulated foam. For joints less than ¾" use SIS tube.
6. Injection ports for INJECTO[®] Tube must be placed vertically and left exposed.
7. Place a layer of polyurethane soaked open cell foam backer rod or polyurethane soaked oakum to create a seal over the reticulated foam. (Rod should be 1½ - 2 times joint size.) Be sure to leave an air space of ½" to 1" between the reinforcing foam and the backer rod or oakum.
 - Cut rod or oakum to 20"-30" lengths. For rods over 1" in diameter, cut a split lengthwise down the rod its full- length to insure proper grout absorption.
 - Saturate rod or oakum with water. Work water into oakum strands.
 - Wring out rod or oakum, leaving wet.
 - After rod or oakum has been wrung out, place rod or oakum in urethane grout by DE NEEF[®] and allow resin to penetrate all pores of rod or strands of oakum.
 - Spray joint with water.
 - Place the soaked backer rod or oakum in the joint.
 - Confine the expansion of the grout by placing a board in the top of the joint and weighing down or wedging to prevent displacement. Board should be wrapped with a bond breaker.
8. After the grout has fully cured, proceed to the injection process.
9. Inject a small amount of water through the INJECTO[®] Tube to prime for grout injection.
10. Inject DE NEEF[®] Superflex or DE NEEF[®] Gelacryl Superflex AR Grout through tube. When grout appears at downstream tube outlet, crimp end of outlet and continue grout injection. As pump pressure increases 400-500 psi, move to next injection port and continue process. Take care not to lift the previously installed saturated oakum / backer rod layer.
11. Repeat until all tube sections are injected.
12. Clean the faces of the joint to allow for proper adhesion of the polysulfide sealant. Remove any excess grout that protrudes into the area to receive sealant.
13. Remove bond breaker tape from sides of joint if applied in step 2.
14. Apply a bond breaker tape to the top of the saturated oakum / backer rod layer.
15. Apply a suitable joint sealant per manufacturer's published instructions.

Mix Ratios

REACTIVITY T° (F)	DE NEEF® SUPERFLEX (GAL)	TE300 (OZ)	% TE300	WATER (GAL)	SP200 (OZ)	% SP200	GEL TIME (MIN)
33	5.6	35	4.6	5.6	40	5.35	2
33	5.6	30	3.94	5.6	28	3.74	3
40	5.6	35	4.6	5.6	40	5.35	1
40	5.6	28	3.68	5.6	28	3.74	2
40	5.6	25	3.28	5.6	20	2.67	3
50	5.6	30	3.94	5.6	32	4.28	1
50	5.6	20	2.63	5.6	20	2.67	2
50	5.6	15	1.97	5.6	16	2.14	3
60	5.6	20	1.58	5.6	20	2.67	1
60	5.6	15	1.97	5.6	12	1.6	2
60	5.6	12	1.58	5.6	10	1.34	3
70	5.6	15	1.31	5.6	16	2.14	1
70	5.6	12	1.58	5.6	10	1.34	2
70	5.6	10	1.31	5.6	8	1.07	3
80	5.6	12	1.58	5.6	12	1.6	1
80	5.6	10	1.31	5.6	9	1.2	2
80	5.6	8	1.05	5.6	8	1.07	3

DE NEEF® Gelacryl Superflex AR is designed for use below ground or where there is permanent moisture. Gel time varies depending on the amount of acceleration and temperature. See chart above for time and temperature information. For concentrations above 3%, use TE-300 at 3% and increase SP-200 only. Adding excessive amounts of TE-300 can adversely affect the quality of the reacted gel. (All results above are based on 77°F. Site trials should always be carried out to determine the gel time required.)

Packaging & Handling

DE NEEF® Superflex AR System:

Gelacryl Superflex Kit

- 5.6 gallons grout (55/lb jerrican)
- 2 lbs. jar of SP-200 initiator*
- 28 oz. can of TE-300 activator. **
- DE NEEF® Reinforcing Agent, 5 gal pail

DE NEEF® Superflex Joint System:

Gelacryl Superflex Kit

- 5.6 gallons grout (55/lb jerrican)
- 2 lbs. jar of SP-200 initiator*
- 28 oz. can of TE-300 activator. **
- DE NEEF® Reinforcing Agent, 5 gal pail
- DE NEEF® Reinforcement Foam
- INJECTO® Grout Tube

*SP 200 is an oxidizer and ships as a hazardous material.

All components should be stored in a dry place at temperatures between 40°F and 80°F. Do not thin with solvents

Warning! Do not let SP-200 and TE-300 come into contact with each other prior to field mixing. A poisonous gas may result! STORE COMPONENTS SEPARATELY FROM EACH OTHER



DRINKING WATER SYSTEM COMPONENTS
ANSI / NSF 61
3N76

GELACRYL SUPERFLEX
MAXIMUM SURFACE AREA
TO VOLUME RATIO 0.05 cm² / L
Water Use Temp. 23° C

Health and 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 toll free at 1-866 333-3726.

Limitations

Low temperatures will significantly elongate set times. For best results, bring product to a minimum temperature 50°F for a minimum period of 24 hours prior to use. If site temperatures are extremely low, material should be held in a warm area before and during use to maintain the products temperature. Allow no water into open containers. Do not apply when ice is present. DO NOT EXCEED 90°F WHEN WARMING.

CAUTION – pH NOTICES

- Water used to activate grouts (“B” side of mix) must be in a range of pH 5.5 – 7 for optimum grout quality.
- Varying water pH will cause the reaction times to change.
- Groundwater should be in the range of pH 3-12.

Properties

DE NEEF® SUPERFLEX

Appearance	Blue Green
Specific Gravity	1.17
Viscosity 77°F	15-20 cps
Mixed Viscosity 77°F	10 cps

DE NEEF® REINFORCING AGENT

Appearance	Milky white liquid
Specific Gravity	0.98-1.04
Viscosity	150 to 300 cPs at 77°F
Freezing Point	32°F
Solubility in water at 68°F	Unlimited
Corrosiveness	Non-corrosive
Toxicity	Non-Toxic
pH	7.5-8.5

DE NEEF® SUPERFLEX AR SYSTEM

CURED

Elongation at Break	300% (ASTM 638)
Post Reaction Expansion	150% in contact with water
Permeability at 29 psi	3.53×10^{-9} cm/s

Note: The data shown above reflects typical results based on laboratory testing under controlled conditions. Reasonable variations from the data shown above may result.

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