

Acrylic Resins



SPETEC® AG 200

Ultra Low Viscosity Acrylic Injection Resin Mainly Used For Curtain, Crack, and Tube Injections

Product Identifier

Product Name

SPETEC® AG 200

SPETEC® AG 200 is a three-component, water-swelling hydrogel based on acrylic monomers that cures to an elastic product.

Supplier Details

Alchatek
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Emergency Phone Numbers

Call CHEMTREC
Day or Night

1-800-424-9300
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Description

SPETEC® AG 200 is a three-component, water-swelling hydrogel based on acrylic monomers that cures to an elastic product.

Uses

MAIN FIELDS OF APPLICATION

- Filling and waterproofing gravel nests in concrete.
- Waterproofing of underground structures in concrete and masonry.(ex. basements, underground parking spaces, ...)
- Waterproofing cracks in rock formations.
- Injection of re-injectable injection hoses.
- Below grade expansion joints.

OTHER FIELDS OF APPLICATION

- Screen injections behind existing structures.
- Filling hollow spaces and gaps behind structures.
(If the soil around the gap is too loose, product flows into the soil)
- Consolidate soil and prevent erosion around floors, walls, etc.

Advantages

- Very low shrinkage.
- Non-toxic for the environment.
- 5-7 cps (0.005-0.007 Pa·s) mixed viscosity.
- Not flammable.
- Very low viscosity.
- Durable in wet and dry conditions.
- Certified by ALS Global to NSF/ANSI/CAN 61 (approved for contact with drinking water).

SPETEC® AG 200

ULTRA LOW VISCOSITY ACRYLIC INJECTION RESIN MAINLY USED FOR CURTAIN, CRACK, AND TUBE INJECTIONS

Application

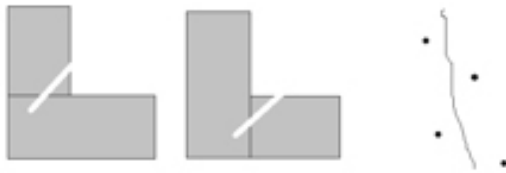
Note: the following are a few typical application descriptions. In case of other jobsite parameters, please contact our technical department.

PRELIMINARY ANALYSIS

Check if the site allows the gel to be kept moist at all times. Below grade injections are recommended. Make sure the movement of the water table over time is not too big.

PREPARATION OF THE SUBSTRATE

- Clean the surface and remove all alien debris. For expansion joint injections – if possible – make sure that the surfaces of the expansion joint are clean and free from oil.
- Drill the necessary injection holes and install appropriate packers. For curtain grouting, a matrix grid of appropriate size has to be observed, typically 18 by 18 in (45.72 x 45.72 cm).
- For crack or joint injections drill into the crack or joint under a 45 degree angle.

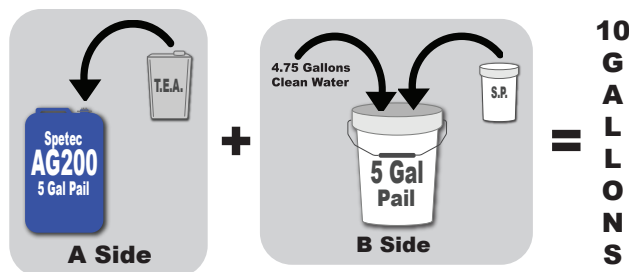


- For soil injections, install the correct type of injection ports; these can be strainer pipes.

PREPARATION OF THE PRODUCT

Mixing

- The A2 (TEA) container is emptied completely into the A1 (SPETEC® AG 200) container and mixed for approx. 3 minutes.
- The B-component (SP) is poured into a clean 5 gallon (18.93 liter) pail with 4.75 gallons (17.98 liters) of clean water. Mix for 3 minutes.
- Different pot-lives can be achieved depending on the amount of SP and the temperature.



Use two-component positive displacement pump. All wetted parts must be stainless steel or plastic.

SPETEC® AG 200

ULTRA LOW VISCOSITY ACRYLIC INJECTION RESIN MAINLY USED FOR CURTAIN, CRACK, AND TUBE INJECTIONS

Set time depending on quantity of SP and temperature:

	3.53oz (104.39 ml)	7.05oz (208.49 ml)	17.64oz (521.68 ml)	28.22oz (834.57 ml)	35.27oz (1043.06 ml)
Temp					
77°F (25°C)	0:47	0:27	0:17	0:12	0:10
68°F (15°C)	0:56	0:33	0:21	0:17	0:15
59°F (15°C)	1:10	0:48	0:27	0:20	0:17
50°F (10°C)	1:56	1:07	0:37	0:30	0:23
41°F (5°C)	3:11	1:12	0:40	0:33	0:26

(Amounts based on 44.09lbs [20kg] A1- and 2.20lbs [1kg] A2-component)

Use the SPETEC® AG 200 retarder for longer reaction times. Pour all the retarder (2.20lbs [1kg] bottle) into the B side 5 gallon pail with the water and S.P. mixture.

When using SPETEC® AG 200 retarder, the quantities of all other ingredients must remain as described above. The mixing time remains 3 minutes.

Pot-life with SPETEC® AG 200 retarder, depending on quantity of SP and temperature:

	3.53oz (104.39 ml)	7.05oz (208.49 ml)	17.64oz (521.68 ml)	28.22oz (834.57 ml)	35.27oz (1043.06 ml)
Temp					
77°F (25°C)	28:48	10:12	6:44	4:48	3:30
68°F (20°C)	40:30	15:10	10:20	7:00	5:40
59°F (15°C)	61:40	24:48	13:24	9:23	7:24
50°F (10°C)	102:42	40:20	21:36	12:44	11:28
41°F (5°C)	157:44	60:16	34:16	24:04	19:28

(Amounts based on 44.09lbs [20kg] A1-component , 2.20lbs [1kg] A2-component and 2.20lbs [1kg] retarder)

When performing a curtain grouting or soil stabilization procedure, aim for a reaction time of 2 to 4 minutes for optimal saturation. Extensive testing has proven faster reaction times ineffective due to inadequate soil saturation.

PREPARATION OF THE EQUIPMENT

SPETEC® AG 200 has to be injected with a two-component stainless steel pump. The injection head needs to have a water flushing option in order to rinse the mixing chamber between injection runs.

Make sure the pump functions perfectly before starting the injection.

SPETEC® AG 200

ULTRA LOW VISCOSITY ACRYLIC INJECTION RESIN MAINLY
USED FOR CURTAIN, CRACK, AND TUBE INJECTIONS

APPLICATION

For Curtain Grouting

- Start the injection at the first injection port at one of the corners.
- For a matrix grid of 18 by 18 in (45.72 x 45.72 cm) inject 5 gallons (18.93 liters) of SPETEC® AG 200 per injection hole.
- Inject at low pressures. The recommended pressure is that pressure at which the material starts to flow into the soil.

Move to the next injection port if:

- 5 gallons (18.93 liters) of SPETEC® AG 200 has been injected into the injection port
- Resin starts flowing out from one of the adjacent injection ports
- Build up the screen gradually per row of packers.

After one row of packers, go back to the first packer and inject – if possible 34 oz to 1.3 gallons (1 to 5 litres) more SPETEC® AG 200 at low pressure.

For Soil injection

- Start the injection at the first injection port on the grid.
- Injected the necessary quantity of SPETEC® AG 200 into the T&M or Strainer pipe. The necessary quantity depends on the depth of the injection, soil parameters, type of injection port, size of the injection matrix and should be determined by the site engineer.
- Inject at low pressures. The recommended pressure is that pressure at which the material starts to flow into the soil.
- Move to the next injection port when the required quantity of SPETEC® AG 200 has been injected.

REQUIRED TOOLS

SPETEC® AG 200 requires a two-component stainless steel pump. The pump head must have a water flushing option for rinsing the mix chamber between injections. Contact Alchatek for pump recommendations.

CLEANING AND MAINTENANCE

After the injection, clean the pump with AP Flush 121. If the pump will not be used for several days, flush the AP Flush 121 out of the pump with lightweight motor oil or hydraulic fluid 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 a fast setting cement or any other appropriate filler material.

COMPLIMENTARY PRODUCTS

- SPETEC® TEA
- SPETEC® SP
- SPETEC® GEL REINFORCING AGENT
- SPETEC® AG200 RETARDER
- SPETEC® PACKERS & ACCESSORIES

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ADVICE / FOCAL POINTS

Viscosity

The viscosity of the SPETEC® AG 200 injection solution depends on dilution and temperature. This viscosity will remain almost constant up to the setting point.

Technical Data

Substance data of components:

Component	Consistency Color Odor	Specific Density (68°F [20°C])	Dynamic Viscosity (68°F [20°C])
Comp. A1	liquid amber characteristic	approx. 71.79lbs/ft ³ (1.15 kg/dm ³)	approx. 20cps (0.02 Pa·s) ASTM D4878-98
Comp. A2	liquid colorless amine-like	approx. 69.92lbs/ft ³ (1.12 kg/dm ³)	approx. 280cps (0.28 Pa·s) ASTM D4878-98
Comp. B	solid white odorless	approx. 161.69lbs/ft ³ (2.59 kg/ dm ³)	Bulk density (68°F) approx. 71.79lbs/ft ³ (1.15 kg/dm ³)

Viscosity at 68°F	Mix: AG200 + TEA + SP + H2O =	5-7cps (0.005-0.007 Pa·s)
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Mixture of A- and B-component:

Processing temperature*	41 - 104°F (5 - 40°C)	substrate temperature
Viscosity of mixture (68°F)	approx. 3-4cps (0.003-0.004Pa·s)	ASTM D4878-98

Reaction data at 68°F:

Pot-life **	9s - 7min	DIN EN 14022
Final curing **	2 - 20min	

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Properties after curing:

Consistency	soft-elastic	
Color	amber	
E-modulus	approx. 37.70psi (259.93 kPa)	DIN EN ISO 527-3
Tensile strength	approx. 5.80psi (39.99 kPa)	DIN EN ISO 527-3
Elongation at break	approx. 510%	DIN EN ISO 527-3
Water absorption	approx. 100-150%	DIN EN ISO 62

* The declared range of temperature complies with our recommendations. Generally, the product reacts even at very low temperatures (from experience down to approx. 5°F [-15°C]) or distinct higher values than +104°F (+40°C). Admittedly, problems might occur, which are not directly related to the properties of the product. At sharp frost the air line of the pump might freeze or even present ice inside the structural element to be sealed can cause difficulties. At temperatures above-average too short reaction times can arise, which prevent an entire and successful filling of the injection area. Beside that it might happen that the activated A-component at very high temperatures starts curing even without addition of the B-component, which results in a blockage of the injection pump.

** The indicated times are reached through different quantities of B component and SPETEC® AG 200 Retarder.

Packaging

SPETEC® AG 200 is supplied in the following packages:

A1-component 5 gallon (18.93 liter), A2-component 1 quart plastic bottle, B-component 1 quart plastic tub (2 lbs [0.9 kg]).

Larger packaging on request.

Storage and Shelf Life

SPETEC® AG 200 can be kept for 6 months in the intact original package if stored away from light or sunlight and at a temperature between 32°F (0°C) and 86°F (30°C). Spetec TEA can be kept for 12 months in the intact original package if stored away from light or sunlight and at a temperature between 32°F (0°C) and 86°F (30°C). Spetec SP has an unlimited shelf life if stored dry in the intact original package.

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 Alchatek.com. When in doubt contact Alchatek Technical Service.