



TECHNICAL DATA SHEET

AV-100[®] CHEMICAL GROUT

GRANULES / LIQUID CHEMICALLY REACTIVE GEL

DESCRIPTION

With over 40 years of successful documented use, AV-100[®] Chemical Grout is used to stop water infiltration into manholes, mainlines, laterals and lateral connections, tunnels, mines, and other underground structures by creating an effective, long-lasting water barrier on the exterior of the structure. AV-100 is an ultra-low viscosity, chemically reactive gel that travels anywhere water can travel and cures in controllable set times from seconds to several hours. Once cured, it creates an effective, long-lasting water barrier while providing superb soil stabilization.

APPLICATION

- Stops water infiltration into manholes, sanitary and storm sewer mainlines, joints, laterals, tunnels, mines, and various other geotechnical applications and underground structures by stabilizing external substrate
- Ground modification/slope stability for prevention of landslides, erosion, or any place where site conditions or project requirements dictate modification of the existing soil properties

FEATURES AND BENEFITS

- Thinnest product on the market
- Can be injected through remote packer equipment
- Controllable reaction times from seconds to hours
- Will not undergo syneresis
- Half-life of 362 years for 20% grout concentration, as determined by U.S. Dept. of Energy
- No suspended solids
- Higher strength compared to acrylates
- Greater longevity compared to silicates
- Available in granular or liquid form

GROUTING TECHNIQUES

- Tube-a-Manchette (TAM) Grouting
- Probe Grouting
- Curtain Grouting
- Remote Packer

HOW IT WORKS

AV-100 is injected using a stainless steel, dual-component pump from two containers (see mix procedure). Injecting a 1:1 ratio into the soil or external substrate will produce a strong, impermeable gel obtained via a copolymerization reaction. Additives are available to modify the reactions and cured gel characteristics.

OPTIONAL ADDITIVES

- **AV-105 Gel Guard[™]** – reduces freezing point (add equal amounts to both tanks)
- **AV-257 Icoset[™]** – increases strength (add to grout tank)
- **KFe** (Potassium Ferricyanide) – extends gel time (add to grout tank)
- **Tracer Dyes** – used extensively for tracking grout flow

PACKAGING

Product is packaged by weight based on specific gravity.

Net Wt.

Bags (Granules)	30 lbs. (13.6 kg), 50 lbs. (22.6 kg)
Tote (Liquid)	2,300 lbs. (1,043 kg)
Drum (Liquid)	130 lbs. (58.9 kg)

SHIPPING

- Motor class 77.5
- Hazard class 6.1
- Motor freight available
- Air freight available

PROPERTIES*

UNCURED (solid)

Appearance:	White granules
Specific Gravity:	1.122 @ 68°F (20°C) ±3%
Bulk Density:	71.79 lbs./ft ³ ± 3% (1150 kg/m ³ ± 3%)
Toxicological:	See SDS

UNCURED (liquid)

Appearance:	Clear water-white liquid
Viscosity:	1 – 2 cP @ 72°F (22°C) in solution
Specific Gravity:	1.03 @ 77°F (25°C) ± 3%
Density:	8.66 lbs./gal ± 3% (1.038 kg/L ± 3%)
Toxicological:	See SDS

CURED

Appearance:	Clear gel mass/translucent
Hydraulic	< 10 ⁻⁸ m/s
Conductivity:	
Toxicity:	Non-toxic

*Laboratory Results

MIX PROCEDURE (See Mixing Guidelines)

Grout Tank (Tank A): Add 10 gallons (37.8 L) of water, add one 50 lb. bag (granules) or one liquid drum of AV-100 to solution, add 0.5 gallons (1.9 L) of AV-101[®] Catalyst T+ and fill with water up to 30-gallon mark. **Catalyst Tank (Tank B):** Add 10 gallons (37.8 L) of water, add 5 lbs. (2.27 kg) of AV-102[®] Catalyst AP, and fill with water up to 30-gallon mark. This mix makes a 60-gallon (227 L) batch at 10% concentration. Note: Ingredients are only compatible with stainless steel or plastic. For mixing guidelines visit avantigrout.com.

PERFORMANCE

Performance will be influenced by site conditions. If site temperatures are low, heat the product to recommended operating temperatures of 60°F – 100°F (16°C – 38°C). Decreasing pH may extend cure time. High minerals/metals content may adversely affect gel time. AV-100 grout can expand post cure and can experience post cure swell when in contact with water. The amount of expansion will be based on grout concentration and/or confining pressures.

STORAGE

Store in temperatures within or near 45°F – 95°F (7°C – 35°C) in a dry atmosphere. Keep out of direct sunlight.

SAFETY

Use of AV-100 is authorized by Avanti International only after completion of the required Safe Operating Practices Program (SOPP). Always use OSHA-approved personal protective equipment (PPE). Refer to the SDS for complete safety precautions. The SDS and mixing guidelines are available by request or via download at avantigrout.com.

NOTICE

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