

## TECHNICAL DATA SHEET

# AV-100<sup>®</sup> CHEMICAL GROUT

GRANULES / LIQUID CHEMICALLY REACTIVE GEL

### DESCRIPTION

With over 40 years of successful documented use, AV-100<sup>®</sup> 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 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<sup>™</sup> – reduces freezing point (add equal amounts to both tanks)
- **AV-257** Icoset<sup>™</sup> – 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 <sup>3</sup> ± 3% (1150 kg/m <sup>3</sup> ± 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 <sup>-8</sup> 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<sup>®</sup>** 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<sup>®</sup>** 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](http://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](http://avantigrout.com).

### NOTICE

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AV-100<sup>®</sup> Chemical Grout is tested and certified by  
WQA against NSF/ANSI/CAN 61 Drinking Water  
System Components

For product use restrictions visit [www.wqa.org](http://www.wqa.org)