AVANTI
Stop leaks. Stabilize soil.
Control groundwater. Permanently.

TECHNICAL DATA SHEET

AV-118® Duriflex

Chemically Reactive Gel

AV-118® Duriflex is tested and certified by WQA against NSF/ANSI/CAN 61 Drinking Water System Components
For product use restrictions visit www.wqa.org

Description

AV-118® Duriflex, a high-performance, proprietary liquid acrylic grout, is designed to prevent water infiltration in manholes, mainlines, laterals, tunnels, mines, and other underground structures. It forms a durable, long-lasting water barrier on the exterior of these structures. This ultra-low viscosity, chemically reactive gel can successfully penetrate soil and rock, and cures in controllable set times from seconds to several hours. Once cured, AV-118 not only creates an effective water barrier but also offers excellent soil stabilization.

Applications

- Stops water infiltration into manholes, sanitary and storm sewer mainlines, joints, laterals, tunnels, mines, and various other geotechnical applications and underground structures by stabilizing the external substrate
- Permeation grouting of non-cohesive soils for water control and soil improvement
- Ground modification for soil improvement, encapsulation, or water control

Features & Benefits

- NSF/ANSI/CAN 61 Drinking Water Systems Component Certified
- Over 35 years of safe and successful documented use
- Ultra-low viscosity chemistry, 1-2 cP (water=1 cP)
- Lower acrylamide content than AV-100® Chemical Grout
- Controllable reaction times from seconds to hours
- Will not undergo syneresis
- Greater longevity compared to silicates
- Multiple grouting techniques including Tube-A-Manchette (TAM), probe, curtain, and remote packer equipment

Required Products

- AV-101® Catalyst T+ (triethanolamine)
- AV-102® Catalyst AP (ammonium persulfate) **or** AV-103® Catalyst SP (sodium persulfate)

How AV-118 Works

AV-118 and its catalysts are injected using a stainless steel, dual-component pump from two tanks (see Mix Guidelines). When the contents of both tanks are combined, free radicals are generated that initiate the Free Radical Polymerization process of the AV-118 monomer grout to form a poly-acrylic copolymer. Injecting a 1:1 ratio into the soil or external substrate will produce a strong, impermeable gel. Various additives can be used to adjust the reaction process and the properties of the cured gel. For optimal performance, AV-118 should be applied at a solids concentration of 10% or higher, with concentrations up to 20% are recommended for achieving greater gel strength.

Optional Additives

- AV-105 Gel Guard™ – reduces freezing point
- KFe (Potassium Ferricyanide) – extends gel time
- AV-257 Icoset™ – increases strength
- Tracer Dyes – used for tracking grout flow

Packaging – product is packaged by net weight

- Drum – 135 lbs. (61 kg)
- Tote – 2,430 lbs. (1,102 kg)

Physical Properties*

UNCURED	
Appearance	Clear water-white liquid
Viscosity (water=1)	1 – 2 cP @ 72°F (22°C) in solution
Flash Point:	>200°F (>93°C)
Specific Gravity	1.080 @ 70°F (21°C) ± 0.25%

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Density	9.013 lbs./gal ± 0.25% (1.080 kg/L ± 0.25%)
Toxicological	See Safety Data Sheet
CURED	
Appearance	Clear gel mass/translucent
Hydraulic Conductivity	< 10-8 m/s
Toxicity	Non-toxic

** Laboratory results*

Mix Procedure Example for AV-118 Duriflex (60-gal. mix at 10% Concentration with 1% catalysts)
Percentage of catalysts is calculated on total batch mix (Tank A + Tank B).
See detailed Mixing Guidelines for various acrylic monomer grout concentrations and tank sizes at avantigrout.com.

Grout Tank (Tank A)

1. Add 10 gallons (37.8 L) of water.
2. Add one 135 lb. drum of AV-118®.
3. Add 0.5 gallon (1.9 L) of AV-101®
4. Fill with water up to 30-gallon mark.
5. Mix thoroughly.

Catalyst Tank (Tank B)

1. Add 10 gallons (37.8 L) of water.
2. Add 5 lb. (2.27 kg) of AV-102® or AV-103®.
3. Fill with water up to 30-gallon mark.
4. Mix thoroughly.

IMPORTANT: At elevated temperatures, AV-102 or AV-103 dissolved in water loses its effectiveness rapidly.

Note: Ingredients for both tanks are only compatible with stainless steel or plastic.

Performance
Performance can be affected by site conditions. The temperature of the material will affect the reaction time. Keep out of direct sunlight. If site temperatures are low, heat the product to the recommended operating range of 60°F to 100°F (16°C to 38°C). A decrease in pH may lengthen the cure time. High levels of minerals or metals may negatively impact gel time. AV-118 grout may expand or swell after curing when exposed to water. The extent of expansion will depend on the grout concentration and/or the confining pressures.

Cleaning
If cross contamination has occurred, remove all cured gel, dissolve baking soda in water, and rinse grouting equipment thoroughly followed by multiple clean water rinses. Dispose of water in accordance with local, regional, national and international regulations.

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-118 is authorized by Avanti International only after completion of the required Safe Operating Practices Program (SOPP). The SOPP can be found at avantigrout.com/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.

Shipping – Motor and Air Freight available

- Not regulated under US DOT Regulations

Notice
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