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

TECHNICAL DATA SHEET

AV-275 Soilgrout™
with AV-276 Soilcat™ Catalyst
Hydrophobic Polyurethane Grout

AV-275 Soilgrout™ 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-275 Soilgrout™ is a low viscosity, moisture-activated, MDI-based polyurethane. The water/moisture activation is a two-step chemical reaction and is catalyzed by mixing AV-276 Soilcat™ with AV-275. Injected as a single component, AV-275 is designed to react quickly with moisture to bind together and waterproof loose granular soils and fill voids. AV-275 must be injected into a confined soil. AV-275 permeates well, and cures to a dense, impermeable rigid soil/grout matrix, withstands wet/dry cycles.

Applications
- Fills voids on the exterior of below-grade structures
- Stops high flows in below-grade structures
- Stabilizes soil to prevent soil erosion, sink holes, sinking foundations, and infiltration of water and silty soils

Features & Benefits
- NSF/ANSI/CAN 61 Drinking Water Systems Component Certified
- Low viscosity allows for excellent permeation
- Free rise expands up to 3,000%
- Pumped as a single component (pre-mixed with AV-276)
- Controllable reaction time by adjusting AV-276 volume
- Withstands wet/dry cycles
- Multiple grouting techniques; probe and curtain grouting, permeation grouting and pressure injection

Required Products
- AV-276 Soilcat™ (catalyst)

How AV-275 Works
AV-275 uncured resin must be injected into a confined soil. Permeate the soil void space with unreacted resin. The resin will react with moisture to form a resilient seal accomplished by three mechanisms: first the resin seeks out water in the space and pores of the soil particles and adheres to the particles surface. Second, the resin/water reaction begins to expand forming a tight compressive seal in the confined soil and third the network of compressed grout material within all the soil particles establishes a mechanical lock. NOTE: Moisture activated resins require a minimum amount of water/moisture. If little or not enough water/moisture is present in the crack/joint to be sealed, water should be flushed through the crack/joint prior to injecting AV-275.

Packaging – product is packaged by net weight

Grout
- Dual-Cartridge 10:1- AV-275 – 25.3 fl. oz. (750 ml)
  AV-276 – 2.5 fl. oz. (75 ml)
- Jug – 8.8 lbs. (4.0 kg)
- Pail – 44 lbs. (20 kg)
- Drum – 484 lbs. (219.5 kg)

Catalyst
- Container - 32 fl. oz. (.95 L)

Physical Properties*

UNCURED AV-275		
Appearance	Black/brown liquid	
Corrosiveness	Non-Corrosive	
Viscosity (water=1)	30-65 cP @ 72°F (22°C)	ASTM D-4889
Flash Point	309.2°F (154°C)	
Specific Gravity (water=1)	1.114 @ 72°F (22°C) ± 3%	
Density	9.3 lbs./gal. ± 3% 1.114 kg/L ± 3%	

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CURED AV-275 †	
Tensile Strength	110 psi (758.423 kPa) ± 3%
Density	1,074 kg/m^3
Bending Strength	213 psi
Bond Strength	99 psi
Shrinkage	0%
Toxicity	Non-toxic
AV-276	
Appearance	Light yellow liquid
Viscosity (water=1)	15-25 cP @ 72°F (22°C)
Flash Point	>200° F (93.3°C)
Specific Gravity	0.902 @ 72°F (22°C) ±3%
Density	7.53 lbs./gal. ± 3% (0.902kg/L ± 3%)

** Laboratory results*

†Cured properties vary depending on application and field conditions.

Mix Guidelines

Gently shake or stir container(s) before using. Typically, one container of AV-276 is used per pail of AV 275 Soilgrout. Depending on the desired reaction time, AV-276 may be doubled (see Cream / Gel (Cure) Times Chart below). Mix thoroughly, but slowly, to avoid creating bubbles in the solution.

Cream / Gel (Cure) Times for AV-275 Soilgrout (Min:Sec)				
		Half Catalyst (16 oz.) 40:1	**Full Catalyst (32 oz.) 20:1**	**Double Catalyst (64 oz.) 10:1**
Temperature	40°F/4°C	1:13 / 3:24	0:32 / 1:46	0:19 / 0:55
	50°F/10°C	1:05 / 3:04	0:29 / 1:34	0:17 / 0:54
	60°F/15°C	0:50 / 2:40	0:28 / 1:18	0:17 / 0:50
	70°F/21°C	0:47 / 2:16	0:28 / 1:17	0:16 / 0:49
	80°F/27°C	0:42 / 2:06	0:22 / 1:15	0:14 / 0:47

**Laboratory results*

Note: Do not use more than double AV-276 catalyst per pail of AV-275.

1. Resin and water temperatures may affect cream / gel times.

2. Actual results may be different in the field due to site water used or site conditions.

Performance

For the best results, use AV-275 between 60°F – 90°F (16°C – 32°C). Flush equipment with AV-208 Technical Grade Acetone™ before and after use to remove moisture and clean equipment. Performance will be influenced by site conditions. If site temperatures are low, use a heat source to warm to ~72°F (22°C) and/or increase catalyst amount by 1% – 2%. Do not exceed more than 64 fl. oz. (2 L) of AV-276 per pail of the AV-275 resin. Do not use open flame as a heat source. At temperatures of 45°F (7°C), the viscosity of the product is significantly increased, making the miscibility with the reaction-water more difficult. Excess amounts of AV-276 may adversely affect performance. Catalyzed resin will react with moisture from the air, use product soon after mixing. The times presented are laboratory results. Actual results may be different in the field due to site water used or site conditions. Perform a standard cup test with site water to determine the desired reaction time.

Cleaning
Do not use water to clean equipment. AV-275 is water activated and will setup or cure in your hoses and equipment. Flush with AV-284 Pump Wash™ to remove uncured resin in hoses and equipment. Purge equipment and hoses with AV-208 Technical Grade Acetone™ before use to remove any remaining AV-284 and moisture.

- AV-208 Technical Grade Acetone™– removes moisture from equipment (see Performance section)
- AV-222 Cleaner™– removes cured resin from equipment
- AV-284 Pump Wash™ – removes uncured resin from pump hose

Storage
Store in temperatures within or near 45°F – 95°F (7°C – 35°C) in a dry atmosphere. Keep container tightly closed when not in use. Packaged under dry nitrogen to keep moisture out and extend shelf life. Storage of opened/partial containers at the lower range of the recommended storage temperature is not advised as moisture in the air above a partial container might condensate and might cause the grout to premature gel in the container. Avanti does not recommend storing full or partially filled containers of AV-275 that have been catalyzed or mixed with AV-276. Catalyzed grout may react over time or if not stored correctly.

Safety
Always use OSHA-approved personal protective equipment (PPE). Refer to the SDS for complete safety precautions. The Safety Data Sheets and Mixing Guidelines are available 24/7 at avantigrout.com.

Shipping – Motor and Air Freight available

- Not regulated under US DOT Regulations

Notice
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