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

# TECHNICAL DATA SHEET

## AV-248-LV Flexseal LV™
**with AV-249-LV Flexseal Cat™ Catalyst**
Hydrophobic Polyurethane Grout

**AV-248-LV Flexseal LV™ 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-248-LV Flexseal LV™ is a low viscosity, moisture-activated, MDI-based polyurethane resin. The water/moisture activation is a two-step chemical reaction and is catalyzed by mixing AV-249-LV Flexseal Cat LV™ with AV-248-LV. Injected as a single component, AV-248-LV is designed to react quickly with moisture to seal active and potential water leaks in cracks or small annular spaces that are susceptible to wet/dry cycles and where flexibility is needed. AV-248-LV should always be injected into small, narrow, confined spaces to provide restricted expansion of the grout. AV-248-LV cures resilient, impermeable, and flexible.

### Applications
- Fine cracks above or below grade in humid or arid atmospheres
- Fills various voids and pipe penetrations
- Stops leaks in concrete structures
- Designed for tunnels, mines, dams, reservoirs, block walls, and structures that may shift

### Features & Benefits
- Tested and certified by WQA against NSF/ANSI/CAN 61 Drinking Water Systems Component Certified
- Very low viscosity
- Free rise expands 400% – 1,000%
- Controllable reaction time by adjusting AV-249-LV Flexseal Cat LV
- Withstands wet/dry cycles
- Grouting technique: Variable Pressure Application Technique (V-PAT) – Crack Injection

### Required Products
- AV-249-LV Flexseal Cat LV (catalyst)

### How AV-248-LV Works
**AV-248-LV uncured resin must be injected into a confined space.** Fill the space of the crack/joint 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 substrate and adheres to the surface. Second, the resin/water reaction begins to expand forming a tight compressive seal in the confined space and third the network of compressed grout material within all the cracks 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-248-LV.

**Packaging** – product is packaged by net weight

**Grout**
- Jug – 8.5 lbs. (3.9 kg)
- Pail – 43 lbs. (19.5 kg)
- Drum – 473 lbs. (214.5 kg)

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

### Physical Properties*

| | | |
|---|---|---|
| **UNCURED AV-248-LV** | | |
| Appearance | Milky white to clear liquid | |
| Viscosity (water=1) | 150–250 cP @ 77°F (25°C) | ASTM D-4889 |
| Flash Point | 255.2°F (124°C) | |
| Specific Gravity (water=1) | 1.03 @ 72°F (22°C) ± 3% | |
| Density | 8.6 lb./gal. (1.030kg/L) ± 3% | |
| **CURED AV-248-LV** | | |
| Appearance | Milky white, flexible | |

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| | | |
|---|---|---|
| Tensile Strength | 150 psi | ASTM D-3574 |
| Elongation | 250% | ASTM D-3574 |
| Linear Shrinkage | <1% | ASTM D-1042 |
| Toxicity: | Non-toxic | |
| **AV-249-LV** | | |
| Appearance | Light yellow to white, clear liquid | |
| Viscosity (water=1) | 15 - 25 cP @ 72°F (22°C) | |
| Flash Point | >200°F (>93°C) | |
| Specific Gravity (water=1) | 0.894 @ 72°F (22°C) ±3% | |
| Density | 7.4 lbs./gal ± 3%  0.894 kg/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-249-LV is used per pail of AV 248-LV Flexseal LV. Depending on the desired reaction time, AV-249-LV may be doubled (see Cream / Gel (Cure) Times chart below). Mix thoroughly, but slowly, to avoid creating bubbles in the solution. 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.

| Cream / Gel (Cure) Times for AV-248-LV Flexseal LV (Min:Sec)*[1,2] | | | | |
|---|---|---|---|---|
| | | **Half Catalyst (16 oz.) 40:1** | **Full Catalyst (32 oz.) 20:1** | **Double Catalyst (64 oz.) 10:1** |
| Temperature | 40°F/4°C | 1:07 / 6:33 | 0:49 / 4:24 | 0:39 / 3:06 |
| | 50°F/10°C | 0:58 / 4:57 | 0:42 / 3:57 | 0:36 / 2:41 |
| | 60°F/15°C | 0:54 / 4:32 | 0:38 / 3:44 | 0:34 / 2:28 |
| | 70°F/21°C | 0:42 / 4:09 | 0:32 / 2:51 | 0:30 / 1:59 |
| | 80°F/27°C | 0:39 / 3:58 | 0:28 / 2:31 | 0:19 / 1:36 |

** Laboratory results*
Note: Do not use more than double AV-249-LV catalyst per pail of AV-248-LV.
*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-248-LV 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. (1.0 L) of AV-249-LV per pail container of the AV-248-LV 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-249-LV 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-248-LV 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-248-LV that have been catalyzed or mixed with AV-249-LV. 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**
The data, information and statements contained herein are believed to be reliable but are not construed as a warranty or representation for which Avanti International assumes any legal responsibility. Since field conditions vary widely, users must undertake sufficient verification and testing to determine the suitability of any product or process mentioned in this or any other written material from Avanti for their own particular use. NO WARRANTY OF SUITABILITY OR FITNESS FOR A PARTICULAR PURPOSE IS MADE. In no case shall Avanti International be liable for consequential, special, or indirect damages resulting from the use or handling of this product.



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