

Hydrophilic Polyurethane Grout



Product description

Azo-Grout™ 526 is a low viscosity, polyurethane grout designed to be used as a permanent waterstop system. It reacts with a broad range of water ratios to produce a flexible foam or an elastomeric gel. Azo-Grout 526 provides an effective means of stopping water seepage.

Azo-Grout 526 is a hydrophilic pre-polymer, which will react with up to five times its weight in water. As Azo-Grout 526 reacts with more water, its foaming and gelling characteristics will decrease. When reacted with water at a ratio of 0.1:1 water / Azo-Grout 526, the product is an 8- to 9-pcf (pound per cubic foot) soft foam with approximately 700 percent expansion, gelling in six minutes. At five parts water to one part

Azo-Grout 526, the product is a soft, elastomeric gel that forms in about one minute.

Azo-Grout 526 is based on a methylenebisphenylisocyanate (MDI) pre-polymer. It is solvent-free and does not require any special shipping or handling. It is stable until it reacts with water during the injection process.

Table 2 represents typical physical properties, which were generated by Azo-Grout 526 under pressure conditions likely to be found in typical application situations. All of the samples were conditioned for seven days at 75°F (23.9°C) and 45-55 percent relative humidity prior to physical testing.

Table 1: Physical properties of uncured materials

	Azo-Grout™ 526	Measurement	Test method
Color	amber		visual
Specific gravity	1.10-1.12		ASTM D891
Viscosity at 77°F (25°C)	700-800	centipoise	ASTM D1638
Storage stability	12	months	
pH	not established		
Toxicity	non-toxic		
Hazard class	not regulated		
Solids	100	percent	
Corrosiveness	non-corrosive		
Flash point	> 220 (> 104.44)	Fahrenheit (Celsius)	

Table 2: Typical physical properties

	Azo-Grout™ 526
Water ratio	1:1
Tensile strength	20 psi
Elongation	80%
Physical form	tough foam

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Installation

Site preparation: Prepare the work site by drilling holes at approximately 45 degree angles to intersect the application site at about half the depth of the fissure. Holes are typically drilled on opposing sides of the application site in an alternating pattern with spacing dependent on the thickness of the substrate. Securely install injection packers in the pre-drilled holes and clean the application site of extraneous and loose materials. Proceed with injection outlined below.

An alternate method for sealing cracks is to drill holes through the concrete adjacent to the cracks exhibiting water infiltration in which an injection device is installed. Proceed with injection outlined in application method. When this method is properly utilized, it will totally encapsulate the leaking area in a grout membrane to help prevent future water infiltration.

A third alternative to stop water infiltration where large cracks with large water volumes are present is to use an activated oakum technique. Clean the application site of extraneous or loose material. Soak oakum in grout and then soak in water to begin the reaction. Place saturated and reacting oakum into leaking cracks and seat deeply by using a blunt instrument. Once the water infiltration has been substantially reduced, drill holes and proceed as in one of the above methods to provide a more permanent and enduring waterstop performance. These are a few examples of typical preparation methods, however, other methods are available and can be utilized successfully depending on the situation and the desired application method.

Figure 1: Drilling

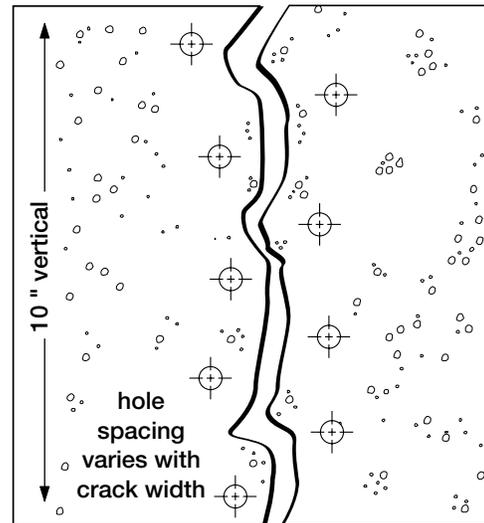
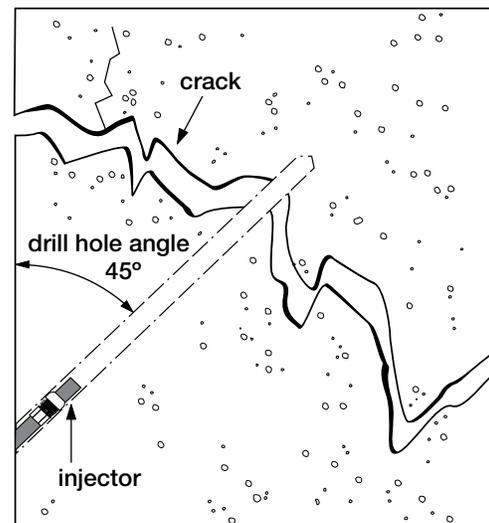


Figure 2: Injecting materials



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Grout preparation: Azo-Grout 526 is a moisture-sensitive product that will react with water and atmospheric humidity. The reactivity of the Azo-Grout 526 with water will vary with the amount of moisture present and the component temperatures. The following tables show the reactivity of Azo-Grout 526 at various grout to water ratios under ambient conditions with no pressure, and the reactivity of Azo-Grout 526 at various grout to water ratios at several component temperatures. Water outside normal pH ranges may have an adverse effect. Due to the great diversity of environments in which Azo-Grout 526 can be subjected, it is recommended that testing be performed in each special, environmental application case.

Application method: This product should be injected as a two-component system by means of a mixing/metering machine with water as a second component. The components are pumped into the injection packers generally beginning with the lowest. Continue introducing thoroughly mixed material into the packer until the material reaches the next highest packer, then move up to this injection site and continue application. This procedure continues until the highest injection packer has obtained an application. Once the injected material has cured at the application site, clean and finish the site in an appropriate manner. Water blasting is a recommended technique for cleaning the concrete.

It is important to apply a sufficient amount of Azo-Grout 526 to allow for a satisfactory ratio to be obtained for maximum effectiveness.

Table 3: Physical properties of cured materials

Azo-Grout™ 526	Water	Gel time	Description
10	1	6 minutes	soft foam, 700% expansion
5	1	4 minutes	soft foam, 600% expansion
1	1	2 minutes	tough foam, 100% expansion
1	5	1 minute	soft, elastomeric gel

Table 4: Temperature effects on gel time

Temperature		Gel time
Degrees Fahrenheit	Degrees Celsius	Seconds
50	10	170
68	20	100
86	30	65
104	40	60

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Precautions

These materials are intended to be used by trained individuals with the proper equipment. This grout contains reactive materials, which result in an exothermic reaction and have the potential to cause burns. The Azo-Grout 526 component contains an isocyanate and may cause irritation or allergic reactions with sensitive people. Furthermore, this material in unmixed or mixed states can be difficult to remove. Use appropriate safety equipment as outlined in the safety data sheets (SDS) when working with this or any other grout. Furthermore, use appropriate safeguards concerning the application site if falling debris presents a hazard. Consider the following safety measures:

- Wear protective gloves, clothing, goggles, hearing protection for noise reduction and hard hats for falling debris.
- Do not eat, drink or smoke while in active contact with these materials.
- Avoid skin contact. Remove and clean contaminated clothing immediately.
- Practice good hygiene when working with these materials and wash hands thoroughly with soap and cool to tepid water. Never wash the skin with a solvent.
- Azo-Grout 526 contains methylenebisphenylisocyanate (MDI), which may cause irritation of the nose, eyes or throat. In elevated concentrations, it may also be a respiratory irritant, so adequate ventilation should be used when handling the Azo-Grout 526. Anyone experiencing difficulty when working with these materials or showing allergic reaction should be removed to fresh air immediately and consult a physician if symptoms persist. Anyone experiencing allergic reaction to isocyanate should not work with these materials further.

Since Azo-Grout 526 is a reactive component, it is important to clean the mixer and appropriate mechanical components of residue when injection stops. The recommended solvent for cleaning of pumps, tools and equipment is Azo-Purge MP2™.

Material storage

Open containers of material should be used quickly to avoid moisture contamination. If a container needs to be released, it should be blanketed with nitrogen or dry air [less than -40°F (-40°C) dew point] to minimize water exposure. Refer to the safety data sheets (SDS) for further information regarding these materials. All spills of Azo-Grout 526 should be cleaned up by absorbing the substance into an inert material and transferring it to an open top drum. Do not seal the waste drums for 24 hours to allow the Azo-Grout 526 to react completely. Dispose of waste material in accordance with state and local regulations.

Packaging

Azo-Grout 526 is available in 5-gallon pails at 45 pounds and 55-gallon drums at 463 pounds.

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