

Hydrophobic Polyurethane Grout



Product description

Azo-Grout™ 551 is a two-part, polyurethane injection material, which, when used in conjunction with Azo-Nate™ 300, produces a rigid, closed-cell foam. This product is used as an effective stabilizer in water-bearing soils and can lift sunken floors, slabs and roadways.

Azo-Grout 551 and Azo-Nate 300 do not contain any solvents or volatile materials. The low viscosity of these

materials permits easy installation and injection of the product for maximum effectiveness. The reaction of Azo-Grout 551 with Azo-Nate 300 results in an expansion of about 1,000 percent of the original mix volume to produce a 6-pcf (pound per cubic foot) foam. The temperature of the materials when mixed and the temperature of the soil into which the material is introduced control the speed of the reaction.

Table 1: Physical properties of uncured materials

	Azo-Grout™ 551	Azo-Nate™ 300	Measurement	Test method
Color	clear	brown		visual
Specific gravity	1.04-1.05	1.22-1.24		ASTM D891
Viscosity at 77°F (25°C)	200-250	175-225	centipoise	ASTM D4878
Storage stability	12	12	months	
pH	not established	not established		
Toxicity	see SDS	see SDS		
Hazard class	not regulated	9		
Solids	100	100	percent	
Corrosiveness	non-corrosive	non-corrosive		
Flash point	191 (88)	390 (199)	degrees Fahrenheit (Celsius)	

Table 2: Processing characteristics

	Azo-Grout™ 551	Azo-Nate™ 300	Value	Measurement
Mix ratio	100	100		by volume
Mix ratio	100	116.7		by weight
Pot life at 68°F (20°C)			1-2	minutes

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Table 3: Physical properties of cured materials

	Value	Measurement	Test method
Free-rise foam density	6 ± 0.5 (0.096 ± 0.008)	lbs/ft ³ (g/cc)	
Shrinkage by volume	0	percent	in-house
Toxicity	non-toxic		
Compression strength	80-90 at 10% deformation	psi	ASTM D1621

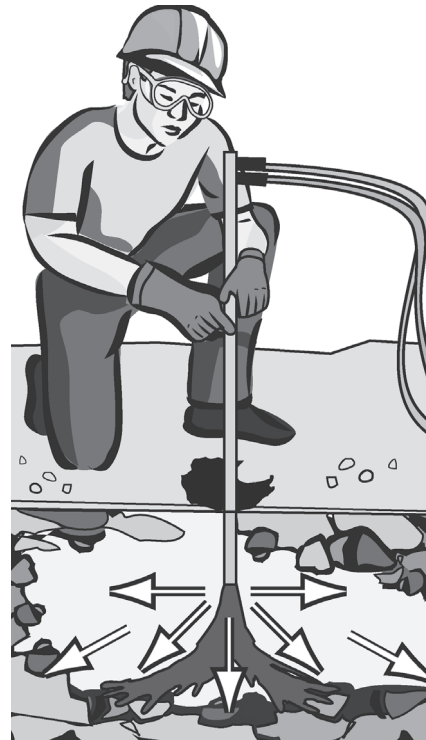
Site preparation

In situations where sand, loam or clay need to be stabilized, Azo-Grout 551 can be utilized. These applications may exist on the outside of tunnels, footings for bridges or in utility shafts of dams. For many projects, the method of stabilizing the surrounding soil is simply drilling holes through the concrete and injecting the grout at predetermined intervals. Each individual situation requires thorough evaluation on how to best add structure to the soil. An illustration of one application method is shown in Figure 1.

Grout preparation

Perform a pre-blend of the Azo-Grout 551 with Azo-Nate 300 to ensure the desired gel time meets the requirements for a particular application. Note that the temperature of the components will affect the reaction time; hotter materials will decrease the reaction or working time, and colder materials will increase the reaction time. Furthermore, pH and other factors present within the application site may affect the reaction or work time.

Figure 1: Soil stabilization



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Application method

Azo-Grout 551 is best installed using multi-component pumps. The mix ratio of the material is 100 parts by the volume of Azo-Grout 551 to 100 parts by the volume of Azo-Nate 300.

Flush the pump and all mechanical components of all residual grout when injection is finished with Azo-Purge MP2™.

Precautions

This material is 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 when in contact with skin. 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.
- Wash hands thoroughly with soap and cool to tepid water. Never wash the skin with a solvent.
- Anyone experiencing difficulty breathing when working with these materials or showing an allergic reaction should seek fresh air immediately and consult a physician if symptoms persist.

Material storage

Open containers of material should be used quickly to avoid moisture contamination. If a container needs to be resealed, 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 551 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 551 to react completely. Dispose of waste material in accordance with state and local regulations.

Packaging

Azo-Grout 551 is available in 55-gallon drums at 463 pounds. Azo-Nate 300 is available in 55-gallon drums at 550 pounds.

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