

Hydrophobic Polyurethane Grout



Product description

Azo-Grout™ 226 is a two-part, polyurethane system suitable for use in anchoring bolts and soil stabilization applications. The product of the Azo-Grout 226 / Azo-Nate™ 300 reaction is a hard, hydrophobic solid.

these materials and their initial mixture permits easy installation and injection of the product for maximum effectiveness.

Azo-Grout 226 and Azo-Nate 300 do not contain any solvents or volatile materials. The low viscosity of

The compressive strength of the final product has been determined according to ASTM D695. The results of this testing are shown in Table 3.

Table 1: Physical properties of uncured materials

	Azo-Grout™ 226	Azo-Nate™ 300	Measurement	Test method
Color	varies	brown		visual
Specific gravity	1.04-1.06	1.22-1.24		ASTM D891
Viscosity at 77°F (25°C)	200-250	175-225	centipoise	ASTM D2196
Storage stability	12	12	months	
Mix ratio	100	100	by volume	
Mix ratio	100	118	by weight	
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: Physical properties of cured materials

	Value	Measurement	Test method
Density	71.2 (1.14)	lbs/ft ³ (g/cc)	
Hardness after 24 hrs.	79-83	Shore D	ASTM D2240
Tensile strength	7,540 ± 500	psi	ASTM D638
Elongation	2 ± 1	percent	ASTM D638
Pot life at 68°F (20°C)	30	minutes	
Shrinkage by weight	0	percent	in-house
Shrinkage by volume	2~2.5	percent	in-house
Toxicity	non-toxic		

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Site preparation

In situations where sand, loam or clay need to be stabilized, Azo-Grout 226 can be utilized. These applications may exist on the outside of tunnels, footings for bridges or in the utility shafts of dams. In many projects, the method of stabilizing the surrounding soil is simply drilling holes through the concrete and injecting the grout at pre-determined intervals. Each individual situation requires thorough evaluation on how to best add structure to the dirt. An illustration of one application method is shown in Figure 1.

Table 3: Test results

Deformation	Compressive strength
5%	790 psi
10%	3,600+ psi
15%	3,600+ psi
20%	3,600+ psi

Grout preparation

Perform a pre-blend of the Azo-Grout 226 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. Azo-Grout 226 is currently available with a pre-determined gel time of 28–32 minutes. For other reaction times, please consult the manufacturer.

Application method

Azo-Grout 226 is best installed using multi-component pumps. The mix ratio of the material is 100 parts by weight of Azo-Grout 226 to 118 parts by weight of Azo-Nate 300. This translates to a mix ratio of 100 parts by volume of Azo-Grout 226 to 100 parts by volume of Azo-Nate 300. The components are pumped into various types of injection packers. Introduce thoroughly mixed material into the packer until material reaches its destination. 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.

Figure 1: Soil stabilization



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Precautions

This material is intended to be used by trained professionals with the proper equipment. The following safety measures are recommended:

- 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 water. Never wash the skin with a solvent.
- Anyone experiencing difficulty breathing when working with these material or showing an allergic reaction should seek fresh air immediately. Consult a physician if symptoms persist.

Note: Depending on the scope of the project, it may be advisable to consult a manufacturer's representative during installation.

See Technical Bulletin 1 for more information about application and procedures.

Material storage

Open containers of the 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 226 should be cleaned up by absorbing the grout 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 226 to react completely. Dispose of waste material in accordance with state and local regulations.

Packaging

Azo-Grout 226 is available in 5-gallon pails at 45 pounds and 55-gallon drums at 463 pounds.

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