Azon
643 W. Crosstown Parkway
Phone: (800) 788-5942
Phone: (269) 385-5942
Fax: (269) 373-9295
www.azonintl.com
www.azogrout.com

WATERSTOPS

Short specification

Azo-Grout™ 424 hydrophobic polyurethane injection material is used to stop water infiltration in concrete structures, including concrete cracks, underground parking garages, municipal and utility facilities, and concrete dams and powerhouse galleys. Material will cure to a flexible dense mass once reacted per the processing guidelines outlined by Azon, Kalamazoo, Michigan.

Full specification

PART 1 GENERAL

1.01 SUMMARY

A. Section Includes: The material and equipment needed to stop water infiltration in concrete structures.

B. Related Requirements:

1. Section 03 15 00 – Concrete Accessories
2. Section 03 64 00 – Injection Grouting
3. Section 03 64 60 – Chemical Grouting

1.02 SUBMITTALS

A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures Section.

B. Product Data:

1. Submit manufacturer's product information brochures.
2. Submit MSDS of each relevant product used on the job site.
3. Submit manufacturer's product data sheets per grout product used.
4. Submit product technical bulletins for intended applications—a general outline of instructions for applying and installing manufacturer's grout.

1.03 QUALITY ASSURANCE

A. Manufacturer Qualifications: Contractor should demonstrate adequate experience applying polyurethane hydrophobic chemical grout.

B. Regulatory Requirements and Approvals:

1. Grout and components must be ANSI/NSF 61 certified if product could come in contact with potable water during the application process.
2. All material components must be fabricated in the United States.

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

1.04 DELIVERY, STORAGE & HANDLING

A. General: Comply with Division 1 Product Requirement Section.

B. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

C. Storage and Protection:

1. Refer to the manufacturer's product data sheet and material safety data sheets (MSDS) for storage and handling instructions.

D. Site Precautions:

1. OSHA guidelines and local restrictions, as applicable, must be followed at all times.
2. Information, instructions and warnings on all MSDS, labels and product data sheets must be adhered to.
3. This material is intended to be used by trained individuals with the proper equipment.
4. Environmental waste—liquid, solid or vapor—must be contained within the job site and disposed of in accordance with state, province and local regulations. See the manufacturer's literature for removal information.

PART 2 PRODUCTS

2.01 GROUT

A. Manufacturer: Azon

Contact: 643 W. Crosstown Parkway, Kalamazoo, Michigan 49008-1910; Tel: (800) 788-5942; (269) 385-5942; Fax: (269) 373-9295

B. Web site: www.azogrout.com

C. Specifier Note: Select a grout product from below.

1. Azo-Grout™ 424 [viscosity at 77°F (25°C): 450-550 centipoise]
   a. Material: Hydrophobic polyurethane injection material that is used to stop water infiltration in concrete structures, including concrete cracks, underground parking garages, municipal and utility facilities, and concrete dams and powerhouse galleys.
   b. The grout is a solvent-free, methyldiphenyl isocyanate (MDI)-based prepolymer that has been approved for contact with potable water in accordance with National Sanitation Federation (NSF) standard 61.

D. Accessories:

1. Azo-Cat™ 25 serves as a catalyst with Azo-Grout™ 424 to increase the grout's setup time.
2. Azo-Purge MP2™ safety flush agent is recommended for purge cleaning of the grout injection pumps.
3. Appropriate cleaning fluid (i.e. phosphoric acid) for flushing the application site (crack or joint) before the polyurethane is added, if necessary.

E. Equipment:

1. 2 - Titan 440 airless injection pumps (1,500 psi). Use one injection pump for flushing acid and water, and a separate injection pump for the actual grout injection.
2. Hammer drill 3/8" chuck, 10" bit or longer as needed per job application.
3. Injection packers 3/8" diameter, zerk fitting.
4. Socket drive.

2.02 PRODUCT SUBSTITUTIONS

A. Substitutions: Contractor must submit a product data sheet of an equivalent product to ensure similar viscosity levels for a suitable substitution.

2.03 INJECTION

A. Field Application: Inject product in compliance with grout manufacturer's recommendations. See the technical bulletin, product data sheet and brochure for more details.

2.04 SOURCE QUALITY CONTROL

A. Tests, Inspection: Ensure manufacturer is in compliance with ISO registration procedures for the production of the specified grout.

PART 3 EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with the instructions and recommendations of the grout manufacturer. Refer to the technical bulletin and the product data sheet for further instruction.

3.02 EXAMINATION AND PREPARATION

A. Site Verification of Conditions:

1. Verify that site conditions are acceptable for product installation in accordance with installer's recommendation.
2. Prepare the work site by drilling holes at approximately 45-degree angles to intersect the application site at about half the depth of the wall thickness. Holes are typically drilled on opposing sides of the application site in an alternating pattern and the spacing is dependent on the crack size
3. Flush drill waste from the hole prior to installing packers to ensure a strong bond.
4. Securely install the injection packers in the pre-drilled holes.
5. Install zerks into packers.
6. Inject a diluted phosphoric acid mixture through the packers to flush all chemical and mineral residuals from the repair area, if necessary.
7. Inject water through the packers to flush the acid mixture from the repair area.
8. See technical bulletin for more details.

3.03 GROUT PREPARATION

A. Perform a pre-blend of Azo-Grout™ 424 using on-site water to ensure the desired gel time meets the requirements for the application.

B. Azo-Cat™ 25 can be added to Azo-Grout™ 424 prior to mixing with water to accelerate the reaction time.

C. The recommended procedure for a reactivity check of the grout and catalyst is as follows:

1. Add 100 parts by weight of Azo-Grout™ 424 to xy parts by weight of Azo-Cat™ 25 and allow the two to homogenize.
2. Add 5 parts by weight of water and mix thoroughly.
3. Using the start time as the time mixing begins after the addition of water:
   a. Determine the cream time – the time in which the material just begins to foam.
   b. Determine the tack-free time – the time in which the surface of the material is no longer tacky.

D. The temperature of the materials when mixed and the temperature of the soil into which the material is introduced can also control the speed of the reaction.

3.04 APPLICATION AND INSTALLATION

A. Premix Azo-Grout™ 424 with the amount of Azo-Cat™ 25 needed for the desired gel time.

B. Start with a quantity of material that can be used in a reasonable amount of time.

C. If the crack is dry, inject water first through each packer using a separate injection pump. The use of a second injection pump for injecting water reduces the risk of having a reaction that would result in a clogged pump.

D. Inject premixed Azo-Grout™ 424 using an injection pump beginning with the lowest packer.

E. Continue introducing thoroughly mixed material into the packers until the material reaches the next highest packer; then move up to the next injection site and continue application.

F. For best results, move back and repeat injection on several previous packers until each port refuses to take on more material.

G. The injection material must be sufficiently applied to allow a satisfactory ratio to be obtained for maximum effectiveness. Visual inspection of the injection material penetrating the surrounding drill holes will determine the consistency of the reacted material.

H. Refer to the manufacturer's technical bulletin, product data sheet, MSDS guidelines and product information brochure for more information about the injection procedure.

3.05 CLEANING

A. Once the material cures, the ends of the packers can then be cut or knocked off.

B. Excess grout material can be scraped off using a putty knife or wood shim. This material can be disposed of in normal trash containers.

C. Flush the injection pumps and all mechanical components of all residual grout when injection is finished with recommended Azo-Purge MP2™ safety flush agent (see *Accessories).*

D. Dispose of waste materials in accordance with state, province and local regulations. Building and safety codes governing the use and disposal of material vary widely.

E. Refer to the manufacturer's technical bulletin, product data sheet, MSDS guidelines and product information brochure for more information about the cleaning procedure.

END OF SECTION