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CONCRETE RAISING

Short specification

Azo-Grout™ 551 with Azo-Nate™ 300 hydrophobic two-part polyurethane injection material is used as an effective stabilizer in water-bearing soils or as a lifter of sunken floors, slabs and roadways. Material should be a rigid closed-cell foam 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 for void filling and slab lifting in soil and concrete applications.
- B. Related Requirements:
 - 1. Section 31 43 13 – Pressure Grouting
 - 2. Section 31 43 13.16 – Polyurethane Pressure 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.

1.03 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Contractor should demonstrate adequate experience applying polyurethane hydrophobic chemical grout.
- B. Regulatory Requirements and Approvals:
 - 1. 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™ 551 with Azo-Nate™ 300 [Azo-Grout™ 551 viscosity at 77°F (25°C): 200-250 centipoise]
[Azo-Nate™ 300 viscosity at 77°F (25°C): 175-225 centipoise]
 - a. Material: Hydrophobic two-part polyurethane injection material that produces a rigid closed-cell foam that can be used as an effective stabilizer in water-bearing soils and can lift sunken floors, slabs and roadways.
 - b. The material does not contain any harmful solvents or volatile materials.

D. Accessories:

1. Azo-Purge MP2™ safety flush agent is recommended for purge cleaning of the grout two-component injection pump.

E. Equipment:

1. Two-component injection pump.
2. Hammer drill with 10" bit or longer as needed per job application.
3. Socket drive.
4. Machette tubes
5. Sliding or inflatable packers

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 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 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. Applications for soil stabilization, void filling or slab lifting may exist on the outside of tunnels, footings for bridges or in the utility shafts of dams where a variety of soils—sand, loam or clay—need to be stabilized.

2. In many projects, the method of stabilizing the surrounding soil or void filling and slab lifting is simply drilling holes through the concrete and injecting Azo-Grout™ 551 with Azo-Nate™ 300 at pre-determined intervals. Machette tubes and deep ground injection packers may be necessary for dispensing into the soil.
3. Each individual situation requires thorough evaluation on how to best add structure to the soil.

3.03 GROUT PREPARATION

- A. Perform a pre-blend of Azo-Grout™ 551 and Azo-Nate™ 300 to ensure that the gel time meets the requirements for the particular application.
- B. 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.

3.04 APPLICATION AND INSTALLATION

- A. Azo-Grout™ 551 with Azo-Nate™ 300 is best installed using a two-component injection pump.
- B. 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.
- C. The components are pumped into various types of soil. The manufacturer can recommend the best packer for a specific application.
- D. Introduce thoroughly mixed material into the packer until the material reaches its destination.
- E. Refer to the manufacturer's product data sheet, MSDS guidelines and product information brochure for more information about the injection procedure.

3.05 CLEANING

- A. Flush the two-component injection pump and all mechanical components of all residual grout when injection is finished with recommended Azo-Purge MP2™ safety flush agent (see *Accessories*).
- B. 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.
- C. Refer to the manufacturer's product data sheet, MSDS guidelines and product information brochure for more information about the cleaning procedure.

END OF SECTION