**Technical bulletin 1** 

## Crack injection application method

# Azo<u>-</u>Grout

## Procedure

#### Site preparation

- 1. 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 and the spacing is dependent on the crack size.
- 2. Flush drill waste from hole prior to installing packers.
- 3. Securely install injection packers in the predrilled holes as shown in Figure 1.
- 4. Install zerks into packers as shown in Figure 2.



Figure 1

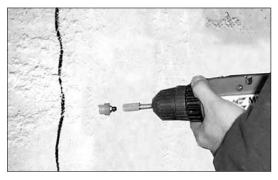


Figure 2



- 5. Inject a phosphoric acid mixture through packers to flush all chemical and mineral residuals from the repair area.
- 6. Inject water through the packers to flush the acid mixture from the repair area.

\*Use one pump for flushing acid and water, and a separate pump for the actual Azo-Grout<sup>™</sup> injection.

## **Material preparation**

- 1. Pour Azo-Grout<sup>™</sup> into a separate, clean five-gallon pail.
- Slowly add the appropriate amount of Azo-Cat<sup>™</sup> as indicated on the Azo-Grout<sup>™</sup> product data sheet (no catalyst needed for 600 series). After starting a stirring motion with the Azo-Grout; continue stirring for two minutes.

## Supply list

#### Material:

 Azo-Grout<sup>™</sup> 424 or Azo-Grout<sup>™</sup> 458 or Azo-Grout<sup>™</sup> 675

#### Accessories:

- Azo-Cat<sup>™</sup> 25 or Azo-Cat<sup>™</sup> 26
- Azo-Purge MP2<sup>™</sup>
- Appropriate cleaning fluid (i.e. phosphoric acid)

#### **Equipment:**

- Two Titan 440 airless pumps (1,500 psi)
- Hammer drill 3/8" chuck, 10" bit or longer as needed per job application
- Injection packer 3/8" diameter, zerk fitting
- Socket drive





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# Azo<u>-</u>Grout



### **Grout installation**

- 1. Pour the Azo-Grout/Azo-Cat mixture into the hopper of the injection pump. Azo-Grout can be injected as a single component when sufficient water is present.
- 2. On a vertical wall, Azo-Grout is pumped into the injection packers generally beginning with with the lowest and continuing to the next highest packer and so on.

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

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

3. Material should pump at 300 psi and be slowly increased as needed.



Grout installation in a manhole.

#### **Cleaning procedures**

- 1. Excess grout material can be scraped off using a putty knife or wood shim; this material can be disposed of in normal trash containers.
- 2. Once the grout fully cures, the ends of the packers can then be cut or knocked off.
- Dispose of other waste materials in accordance with state, province and local regulations. Building and safety codes governing the use and disposal of material vary widely.

### Precautions

For professional use only. Always wear protective gloves, clothing and goggles. Wear suitable eye/ face and skin protection. Use adequate ventilation. Respiratory protection may be required if airborne isocyanate levels exceed exposure limits. Avoid skin and eye contact. Do not ingest. See the safety data sheets for more safety information.

#### Safety information

In the event of an emergency, call CHEMTREC at 800.424.9300.

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

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