

**DURAL AQUA-FIL**

*DURAL AQUA-FIL is a single-component hydrophilic polyurethane compound that is injected in concrete and other sound natural substrates to stop water from entering into occupied or unwanted places. DURAL AQUA-FIL follows the path of water into fine cracks and fissures within the substrate. DURAL AQUA-FIL forms a water tight seal within cracks and joints, while providing good chemical resistance.*

Note: The paragraphs below are meant to be incorporated into Parts 2 and 3 of a standard CSI 3 Part Format specification, the General Structural Notes, or directly onto the plans. They must be carefully reviewed by a qualified design professional and edited to meet the requirements of the project and governing building codes. Coordinate with other specification sections and drawings. In no case shall these Guide Specifications be considered to be Contract Documents or serve as installation instructions for the product being discussed. In any cases of discrepancy the manufacturer's most recently published data sheet shall take precedent.

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03 65 00 CHEMICAL GROUT INJECTION OF CRACKS IN CONCRETE

1.01 RELATED WORK:

A. Section <<insert section>> Concrete Repair

1.02 QUALITY ASSURANCE

A. Installer Qualifications: Experienced installer who has successfully completed 5 jobs of similar size and scope in the prior 5 years.

1.03 QUALITY ASSURANCE

A. Chemical Grout manufacturer shall have ISO 9001 Quality Certification. To ensure compatibility any embedded galvanic anodes shall be from the same manufacturer.

1.04 SUBMITTALS

A. Comply with Section <<insert section>> Submittal Procedures.

B. Product Data: Submit manufacturer’s product data including surface preparation installation, and curing instructions for each type of product indicated.

PART 2: PRODUCT

A. Hydrophillic Polyurethane Chemical Grout:

1. ASTM D 638: 360 percent Elongation

2. ASTM D 1638:Viscosity @ 77 degrees F (25 degrees C): 500 cps

3. ASTM D 638: Tensile Strength, 335 psi

4. **Basis of Design Product:**

**a. Dural Aqua-Fil by The Euclid Chemical Co. www.euclidchemical.com**

PART 3: EXECUTION

3.01 SURFACE AND CRACK PREPARATION

A. Surface and Crack Preparation: Utilizing proper means, clean exterior of surface so that full extent of crack can be seen.

B. Layout alternating hole locations on either side of crack, running full length of the crack. Space the holes running parallel to the crack at a distance equal to the thickness of the concrete being injected. Place holes at a proper distance from the crack or joint so that a hole drilled at a 45 degree angle will intersect the crack at the mid-point of the concrete thickness.

1. Adjust hole layout as necessary to assure that drilling operations do not come into contact with existing reinforcing steel or other embedded items.

C. Drill 5/8” (16mm) holes at 45 degrees to intersect the crack at mid-point of the concrete thickness. Ensure that drill bit is long enough to intersect the crack.

D. Clear drilled holes of all dust, debris and laitance.

E. Install 5/8” (16mm) injection packers into holes and tighten.

F. Inject water through the packers. Ensure that water injected into the packers is flowing through the holes and the crack and ensure that packers are not leaking.

G. In cases where drilling holes at an angle will result in chipping or breaking of the concrete, the holes may need to be drilled directly into the face of the crack. In such cases distance between holes should be equal to the concrete thickness and hole depth should be one half of the concrete thickness.

3.02 CHEMICAL GROUT INJECTION

A. Mix chemical grout per manufacturer’s written instructions.

B. Grout Injection: Install and inject components per manufacturer’s written instructions. Once the injection packers have been set and the drilled holes and crack have been flushed out with water, start at the lowest point of the crack and work upwards. Pump polyurethane grout into the packer until foaming material comes out the face of the crack and starts to approach the next packer. Switch to next packer and continue in this manner until entire crack has been filled with chemical grout.

D. For large cracks and joints, oakum rope or a similar open celled structure material can be used to soak in chemical grout and then placed into crack or joint.

E. Once chemical grout has cured, remove packers or cut-off, flush with the surrounding surface. Cut back any chemical grout that has cured outside of face of crack with a margin trowel or similar scraping tool. Fill packer holes in accordance with manufacturer’s instructions and finish as specified.

3.03 CLEAN UP

A. Use all appropriate protective equipment. Avoid contact with active grout. Use chemical grout manufacturer’s recommended pump rinse material to clean out the lines of the injection equipment

END OF SECTION