EPOJET LV
Very Low-Viscosity, Epoxy Injection Resin for Crack Repair

SECTION 03 64 23
POLYURETHANE / EPOXY INJECTION GROUTING

1.GENERAL

1.1 SECTION INCLUDES

A. Surface preparation and field application for a two-part, 100%-solids, ultra low-viscosity, moisture-tolerant epoxy injection resin that deeply penetrates and seals hairline, non-dynamic cracks, both dry and damp.

1.2 RELATED SECTIONS

A. Section 03 64 00 – Injection Grouting

1.3 REFERENCES

A. ASTM International:
   1. ASTM C881, Types I and II (except gel time) – Standard Specification for Epoxy-Resin-Base Bonding Systems for Concrete.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Manufacturer's data sheets on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square representing actual product, color and patterns.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Minimum of 5 years' experience in manufacturing similar products.

B. Installer Qualifications: Minimum of 2 years' experience in installing similar products.

C. Source Limitations: For repair products, obtain each color, grade, finish, type and variety of product from single source and from single manufacturer with resources to provide products of consistent quality in appearance and physical properties.

D. Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
   1. Finish areas designated by Architect.
   2. Do not proceed with remaining work until workmanship is approved by Architect.
   3. Refinish mock-up area as required to produce acceptable work.

1.6 PRE-INSTALLATION MEETINGS

A. Convene at least two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver and store products in manufacturer's unopened packaging bearing the brand name and manufacturer's identification until ready for installation.

B. Handling: Handle materials to avoid damage.

1.8 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.9 SEQUENCING

A. Ensure that products of this section are supplied to affected trades in time to prevent interruption of construction progress.

2.PRODUCTS

2.1 MANUFACTURERS

A. Product Performance:

Viscosity – ASTM D2393	170 cps
Gel time (60 g mass) – ASTM C881	1 hour
Bond strength, 2-day cure – ASTM C882	2,240 psi (15.4 MPa)
Bond strength, 14-day cure – ASTM C882	2,980 psi (20.6 MPa)
Absorption – ASTM D570	0.65%
Heat deflection temperature – ASTM D648	141°F (61°C)
Linear coefficient of shrinkage – ASTM D2566	0.002 in./in.
Compressive strength – ASTM D695	12,720 psi (74.7 MPa)
Compressive modulus – ASTM D695	516,900 psi (3,565 MPa)
Tensile strength – ASTM C307	5,900 psi (40.7 MPa)
% elongation at break – ASTM D638	2.4%

Acceptable Manufacturer:

MAPEI North America
1144 E. Newport Center Dr.; Deerfield Beach, FL 33442
Toll-Free for CRS Technical Services: Tel. 888-365-0614
Email: CRS@mapei.com
Web: www.mapei.com

B. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

C. Substitutions: Not permitted.

2.2 EPOXY CRACK-INJECTION MATERIALS

A. Epoxy Crack Adhesive: ASTM C 881/C881M, bonding system. Free of VOCs.
1. Product: Subject to compliance with requirements, provide MAPEI Corporation.
2. Epojet LV.
3. Type I, Type II: Non-load-bearing applications.
4. Capping adhesive: MAPEI Corporation; Planibond AE and Planibond AE Fast products manufactured for use with crack injection adhesive by same manufacturer.
5. Bond strength: Not less than 2,980 psi (20.6 MPa) within 14 days when tested according to ASTM D882.

2.3 MISCELLANEOUS MATERIALS

A. Portland cement: ASTM C150/C150M, Type I, II or III unless otherwise indicated.
B. Water: Potable.

2.4 MIXES

A. General: Mix products, in clean containers, according to manufacturer's written instructions.
1. Do not add water, thinners or additives unless recommended by manufacturer.
2. When practical, use manufacturer's premeasured packages to ensure that materials are mixed in proper proportions. When premeasured packages are not used, measure ingredients using graduated measuring containers; do not estimate quantities or use shovels or trowels as units of measure.
3. Do not mix more materials than can be used within time limits recommended by manufacturer. Discard materials that have begun to set.

3.EXECUTION

3.1 EXAMINATION

A. Properly prepared concrete at least 28 days old, stable, sound and dry as well as masonry and wood.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

Ensure that all appropriate tools and safety equipment are used. Refer to Technical Data Sheets (TDSs) for surface preparation.

A. Refer to ACI RAP-2, Crack Repair by Gravity Feed with Resin, and ACI 503.7-07 - Specification for Crack Repair by Epoxy Injection.

B. Concrete surface must be free of loose particles, efflorescence, paints, tars, grease, asphaltic materials, bond breakers, curing compounds, wax, and dry foreign substances or any conditions that may affect product performance or proper bonding.

C. Remove debris by brush or vacuum, or blow the surface clean with oil-free compressed air.

D. It is generally not recommended to flush cracks. Moisture residue may impede subsequent epoxy injection.

3.3 MIXING

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

A. Pre-filled cartridges require application with a nozzle and gun to ensure adequate mixing of Part A and Part B.

B. For the 3 U.S. gal. (11.4 L) kit, use automatic injection equipment that will maintain the correct mixing ratio of 2 to 1 for Part A and B while under pressure.

C. The 3 U.S. gal. (11.4 L) kit also may be mixed by combining Part A and Part B into a separate, clean mixing container. Mix with a low-speed drill (at 400 to 600 rpm) and an appropriate paddle until blended uniformly. Ensure that a ratio of 2 to 1 (A to B) is maintained.

3.3 INSTALLATION

Read all installation instructions thoroughly before installation.

A. Because Epojet LV can be used in various types of applications, refer to TDSs for instructions of the installation that is appropriate for your particular job conditions.

END OF SECTION