

NORTH AMERICA [NA]

### FOR PROFESSIONAL USE ONLY

# **DESCRIPTION**

 $Epojet^{TM}$  [NA] is a high-strength, two-component, 100%-solids, low-viscosity, epoxy resin for pressure injection and sealing of cracks in structural concrete, masonry and wood.

# **FEATURES AND BENEFITS**

- High-early-strength structural adhesive at normal and low ambient temperatures
- Comes in a dual cartridge for easy use
- Can be extended with aggregate to become an epoxy mortar
- High bond strength
- Fast-turnaround epoxy injection
- Moisture-tolerant

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- Improves concrete surface by reducing water and chloride intrusion
- Excellent chemical resistance

### **INDUSTRY STANDARDS AND APPROVALS**

- ASTM: Meets ASTM C881, Types I, II and IV, and Grade 1, Class C (except gel time)
- AASHTO M235: Meets specifications



1/6

2/6

USDA: Meets specifications for food-processing areas



Certified to NSF/ANSI/CAN 61. Refer to WQA's listings for use restrictions.

### WHERE TO USE

- For professional use only
- Use on interior/exterior horizontal, overhead and vertical surfaces.
- Use for the pressure injection of cracks in structural concrete, masonry and wood.
- Use to repair cracks in horizontal concrete and masonry by gravity feed.
- Use to restore and seal horizontal concrete slabs, and to improve their wearability.
- Use to repair delaminated surfaces.
- Use as an epoxy resin binder for epoxy mortar patching.

### **SUITABLE SUBSTRATES**

 Properly prepared concrete (at least 28 days old, stable and free of standing water) as well as masonry and wood

Consult MAPEI's Technical Services Department for installation recommendations regarding substrates and conditions not listed.

# **SURFACE PREPARATION**

- Reference ACI RAP-2, Crack Repair by Gravity Feed with Resin, and ACI 503.7-07, Specification for Crack Repair by Epoxy Injection.
- Thoroughly clean the mouth of each crack, removing any substance that could interfere with the bond of the installation material, including dirt, paint, tar, asphalt, wax, oil, grease, curing compounds, laitance, foreign substances and adhesive residue.
- Remove debris by brush or vacuum, or blow the surface clean with oil-free compressed air.
- It is generally not recommended to flush cracks. Moisture residue may impede subsequent epoxy injection.

# **MIXING**

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

- Acclimate material to between 65°F and 85°F (18°C and 29°C) before using.
- Pre-filled cartridges require application with a nozzle and gun to ensure adequate mixing of Part A and Part 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 Parts A and B while under pressure.

- The 3-U.S.-gal. (11.4-L) kit also may be mixed by combining Part A (2 U.S. gals. [7.57 L]) and Part B (1 U.S. gal. [3.79 L]) into a separate, clean mixing container. Mix with a low-speed drill (at 400 to 600 rpm) and Jiffy mixer until blended uniformly. Ensure that a ratio of 2 to 1 (A to B) is maintained.
- Do not allow the mixed resin to sit; instead, immediately pour or inject the mixed resin. If allowed to sit, the mixture could reach excessive temperatures through an exothermic reaction. If the material began to smoke, add aggregates to reduce the temperature and then store the mixture away from flammable materials till it has cooled.

## PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

#### For pressure injection of cracks

- 1. Place injection ports where the crack is open. Use *Planibond® Hi-Mod Gel* to place ports and cap-seal the surface of cracks, typically a day before injection. Ensure that ports are not blocked by epoxy.
- 2. If feasible on suspended slabs, seal the underside of the crack with Planibond Hi-Mod Gel as well.
- 3. Space apart the ports no less than the thickness of the structure being repaired. Increase port spacing accordingly for complete injection penetration if the width at the crack surface is larger than at the bottom of the crack. Additionally, closer spacing may be suitable for injection of very fine cracks, or spacing may be varied slightly in locations where the crack opens and/or where the crack geometry changes.
- 4. Allow the cap seal to fully cure (time is dependent on temperature).
- 5. a. <u>Application using dual cartridge</u>: Remove the cap from the cartridge, place a flow restrictor and attach the supplied static mixer. Dispense a small amount of *Epojet* [NA] to ensure that material is exiting the static mixer or automatic mixer fully blended (with no streaks).
  - b. Application using kit: Pump into the ports with 2:1 ratio pump. Use a static mixer to mix Part A and Part B.
- 6. Place the mixer or pump nozzle into the lowest injection port. If the back side of the crack has been sealed, stay on a port as long as it accepts epoxy. Cap adjoining ports as epoxy extrudes from them, staying on the original port until the pump stalls out or the crack is completely filled.
- 7. If the pump stalls out, cap the port and continue at the last port where epoxy extruded.

#### For gravity-feed crack repair

- 1. If the cracks reflect through the substrate, seal the underside.
- 2. Cracks should be V-shaped to allow material access and create head pressure for adequate penetration.
- 3. Apply *Epojet* [NA] from the cartridge or pour directly neat from properly mixed kit components into the crack. Continue placement until the crack is completely filled.
- 4. Lightly sand-broadcast the surface of the exposed epoxy.

#### For a binder in an epoxy mortar or patch

- 1. Set aside some neat resin for priming the patch area.
- 2. Prime the concrete with the neat resin so that the surface wets out.
- 3. Prepare the patch or mortar material by adding graded, oven-dried silica sand (typically 4 to 5 parts of aggregate per 1 part of epoxy) to the mixed epoxy resin while mixing with a slow-speed Jiffy mixer. Be careful not to trap air. Place the prepared mortar while the primed area is still tacky. Finish the patch with a trowel. Additional aggregate may be broadcast on the surface to provide slip resistance, and to protect from ultraviolet light (which will darken the epoxy). Do not disturb the patch until it is fully cured.



# **CLEANUP**

Using an appropriate solvent, clean equipment before *Epojet* [NA] cures to a hardened state. Cured material can only be removed mechanically.

# **LIMITATIONS**

- Maintain ambient and substrate temperatures between 40°F and 95°F (4°C and 35°C) during application.
- Application temperature of the substrate must be at least 5°F (2.8°C) above the dew point.
- No additional ingredients are required. Do not thin with solvents.
- Do not use in moving joints, or for sealing slabs on grade.
- Once cured, *Epojet* [NA] is a vapor barrier.
- Not designed to inject cracks wider than 1/4" (6 mm) or under hydrostatic pressure
- Do not apply if rain is imminent.

#### **Product Performance Properties**

Laboratory Tests	Results
Viscosity – ASTM D2393	
At 73°F (23°C)	410 cps
At 86°F (30°C)	246 cps
Viscosity – ASTM D2393	410 cps
Gel time (60 g mass) – ASTM C881	30 minutes
Bond strength, 2-day cure – ASTM C882	1,320 psi (9.10 MPa)
Bond strength, 14-day cure – ASTM C882	2,754 psi (19.0 MPa)
Absorption – ASTM D570	0.93%
Heat deflection temperature – ASTM D648	147°F (64°C)
Compressive strength – ASTM D695	12,180 psi (84 MPa)
Compressive modulus – ASTM D695	547,100 psi (3 773 MPa)
Tensile strength – ASTM D638	7,510 psi (51.8 MPa)
Elongation at break – ASTM D638	3.3%
VOC content (SCAQMD Rule 1168)	< 50 g per L
Typical VOC content per SCAQMD Rule 1168 testing methods	12 g per L

#### **CSI Division Classifications**

Maintenance of Concrete	03 01 00
Epoxy Crack Injection Grouting	03 64 23

#### **Shelf Life and Application Properties**

Shelf life	2 years in original, unopened container. Store at 40°F to 95°F (4°C to 35°C).
Gel time	30 minutes at 73°F (23°C)

#### **Packaging**

Size/Color
Dual cartridge: 13.5 U.S. oz. (399 mL)
Kit: 3 U.S. gals. (11.4 L)
Part A: 2 U.S. gals. (7.57 L), clear
Part B: 1 U.S. gal. (3.79 L), amber

#### Coverage

per 1 U.S. gal. (3.79 L) of mixed epoxy

### **Yield**

231 cu. in. (0.0038 m<sup>3</sup>) of epoxy

# **ADDITIONAL INFORMATION**

Refer to the Safety Data Sheet (SDS) for specific data related to health and safety as well as product handling.

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability\_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).



### **WARNING**

The test results shown in the TECHNICAL DATA table were obtained in compliance with test methods and curing cycles, if applicable, defined in the industry standards referenced on the Technical Data Sheet. Please note that the use of test procedures or methods other than those indicated in the table could lead to different values and that, in such cases, any liability of our company is excluded.

#### **LEGAL NOTICE**

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. <u>ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.</u>

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. <u>ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.</u>

### **CONTACT INFORMATION**

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#### **Technical Services**

U.S. and Puerto Rico: Flooring: 1-800-992-6273 Concrete and heavy construction: 1-888-365-0614 Canada:

### **Customer Service**

1-800-361-9309

1-800-42-MAPEI (1-800-426-2734)

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For the most current product data and BEST-BACKED<sup>SM</sup> warranty information, visit www.mapei.com.

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