

Planibond AE Fast

Rapid-Setting, High-Strength, Epoxy Anchoring Gel



FOR PROFESIONAL USE ONLY

DESCRIPTION

Planibond® AE Fast is a rapid-setting, high-strength, moisture-tolerant, two-component, 100%-solids, epoxy anchoring gel designed for a wide variety of vertical/horizontal bonding and repair applications.

FEATURES AND BENEFITS

- Rapid-setting, nonsag gel consistency
- High-modulus and high-strength
- Moisture-tolerant
- 100%-solids and solvent-free with zero VOC content
- Available in easy-to-use, dual cartridges

INDUSTRY STANDARDS AND APPROVALS

- ASTM C881: Types I, II, IV and V; Grade 3; Classes A, B and C*

*Except for minimum gel time due to Planibond AE Fast's quick set

WHERE TO USE

- Use as a cap seal for fast turnaround on pressure-injection epoxy grouting.
- Use to seal cracks and set anchor bolts.
- Use for doweling applications of rebar and tie bars in concrete repairs.
- Use as an adhesive to bond *Mapeband*™ TPE.

SURFACE PREPARATION

- For anchoring, drill hole(s) to appropriate diameter and depth, typically a diameter 1/8" to 1/4" (3 to 6 mm) larger than the rod or bolt, and in depth 9 to 15 times the diameter of the rod or bolt. Use a nylon brush and oil-free compressed air to thoroughly clean the hole(s) of any dirt, dust and drilling residue from the base of the hole.
- For bonding to steel, ensure that steel is cleaned and prepared to white metal finish. If bonding to concrete, the concrete should be at least 3 to 7 days old, properly prepared and mechanically cleaned, with all weak material removed per ASTM D4258.

MIXING

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

- When mixing 2-U.S.-gal. (7,57-L) kits, use an appropriate positive-displacement, plural-component pump to dispense material. Empty both Part A and Part B into a third container, carefully scraping the sides of the original containers to ensure that all material is mixed together in a 1-to-1 ratio. Mix the material at a medium speed (400 to 600 rpm) with an epoxy paddle, scraping the sides and bottom of the container to ensure that all material is mixed to a uniform, light gray color (after about 3 minutes). Divide the mixed material into small containers to extend the gel time, because material left in mass will gel quickly due to its exothermic properties.
- Pre-filled cartridges of *Planibond AE Fast* require application with a correct static mixer and gun to ensure adequate mixing of Part A and Part B.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

For anchoring

Application of bulk units by pump

Use an appropriate positive-displacement, plural-component pump to dispense material. Fill each hole half full. Rotate the dowel, pin or bolt slightly as it is inserted to the designated depth in the hole. Epoxy should fill the hole flush to the edge with no voids.

Application using dual cartridges

1. Open the cartridges after the preparatory work has been completed.
2. Apply with a dual-cartridge dispensing gun. Remove the plug from the end of the epoxy cartridge and install the static mixer.
3. Place the cartridge in the gun and extrude epoxy until a uniform, streak-free color is achieved.

4. Dispense epoxy with uniform pressure. If pressure is altered or dispensing is paused, always ensure that the epoxy color remains consistent and streak-free before continuing application.
5. After a uniform color is achieved, the static mixer should be placed at the bottom of the hole. Start extruding epoxy while pulling the static mixer out, filling the hole half full. Rotate the dowel, pin or bolt as it is inserted to the designated depth in the hole. Epoxy should fill the hole flush to the edge with no voids.

For setting injection ports and sealing caps/cracks

1. Apply a small amount of properly mixed epoxy to the back of a port and carefully center the port over the crack, taking caution to not seal the injection port.
2. After setting the port, apply additional *Planibond AE Fast* to the shoulders of the port and extend epoxy to 1/2" (12 mm) on either side of the crack, covering the crack between ports with epoxy applied to about 1/4" (6 mm) thick.

CLEANUP

- Clean equipment before *Planibond AE Fast* cures to a hardened state using an appropriate solvent or mineral spirits. Cured material can only be removed mechanically.

LIMITATIONS

- Remove water from wet or damp holes or joints with oil-free compressed air.
- Use on substrates between the temperatures of 32°F and 105°F (0°C and 41°C). Precondition cartridges to 73°F (23°C) for 24 hours before use.
- No additional components are required. Do not thin with solvents.
- Once cured, *Planibond AE Fast* is impermeable to moisture and moisture vapor.
- Store at between 50°F and 90°F (10°C and 32°C).
- Do not place epoxy once it starts curing or gets hot or sticky, and do not disturb it while it cures.

Product Performance Properties

Laboratory Tests	Results
Gel time – ASTM C881	7 minutes
VOCs (Rule #1168 of California's SCAQMD)	
Class B	0 g per L
Class C	0 g per L
Bond strength, 2-day cure – ASTM C882	> 1,000 psi (6,90 MPa)
Bond strength, 14-day cure – ASTM C882	> 1,500 psi (10,3 MPa)
Absorption at 24 hours when cured at 73°F (23°C) – ASTM D570	0.60%
Linear coefficient of shrinkage – ASTM D2566	0.005 in./in. (0,127 mm/mm)
Compressive strength – ASTM D695	10,000 psi (70,0 MPa)
Compressive modulus – ASTM D695	> 200,000 psi (1 379 MPa)
Tensile elongation at break – ASTM D638	> 1%
Tensile strength – ASTM D638	> 3,000 psi (20,7 MPa)
Heat deflection – ASTM D648 at 7 days when cured at 73°F (23°C)	143°F (62°C)
Shrinkage – ASTM C884	Pass
Thermal compatibility – ASTM C884	Pass

Estimating Guide for Number of Holes

per 20.3 U.S. oz. (600 mL)

Rebar in Concrete		Hole Depth										
Rebar Size	Hole Diameter	3" (7,5 cm)	4" (10 cm)	5" (12,5 cm)	6" (15 cm)	8" (20 cm)	10" (25 cm)	12" (30 cm)	14" (36 cm)	16" (41 cm)	18" (46 cm)	20" (51 cm)
No. 4	5/8" (16 mm)	85	64	51	43	32	26	22	19	16	15	13
No. 6	7/8" (22 mm)	55	41	32	28	21	17	14	12	11	10	9
No. 8	1-1/8" (2,9 cm)	41	31	25	21	16	13	11	9	8	7	7
No. 10	1-1/2" (3,8 cm)	20	15	12	10	8	6	5	5	4	4	3

Tension Loads for Threaded Rods

Rod Size	Hole Diameter	Hole Depth	Pull-Out Strength
3/8" (1 cm)	7/16" (1,1 cm)	3-3/8" (8,6 cm)	6,280 lbf (2 848,5 kgf)
3/8" (1 cm)	7/16" (1,1 cm)	5-5/8" (14,3 cm)	11,300 lbf (5 125,6 kgf)
1/2" (1,3 cm)	9/16" (1,4 cm)	4-1/2" (11,4 cm)	14,150 lbf (6 418,3 kgf)
1/2" (1,3 cm)	9/16" (1,4 cm)	7-1/2" (19 cm)	19,570 lbf (8 876,7 kgf)
5/8" (1,6 cm)	3/4" (1,9 cm)	5-5/8" (14,3 cm)	24,780 lbf (11 240 kgf)
5/8" (1,6 cm)	3/4" (1,9 cm)	9-3/8" (23,8 cm)	29,820 lbf (13 526 kgf)
3/4" (1,9 cm)	7/8" (2,2 cm)	6-3/4" (17,1 cm)	28,270 lbf (12 823 kgf)
3/4" (1,9 cm)	7/8" (2,2 cm)	11-1/4" (28,6 cm)	35,110 lbf (15 925,5 kgf)

Shelf Life and Product Characteristics

before mixing

Shelf life	2 years when stored in original, unopened packaging at 73°F (23°C). Store at 50°F to 90°F (10°C to 32°C).
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Protect containers from freezing in transit and storage. Provide for heated storage on site and deliver all materials at least 24 hours before work begins.

CSI Division Classifications

Maintenance of Concrete	03 01 00
Epoxy Grouting	03 63 00

Packaging

Size/Color
Dual cartridge: 20.3 U.S. oz. (600 mL)
Kit: 2 U.S. gals. (7,57 L) Part A epoxy resin: 1 U.S. gal. (3,79 L) and 11.36 lbs. (5,15 kg), dark gray Part B curing agent: 1 U.S. gal. (3,79 L) and 12.75 lbs. (5,78 kg), white

Approximate Coverage**

Yield

Per 20.3 U.S. oz. (600 mL): 37 cu. in. (606 cm³)Per 1 U.S. gal. (3,79 L): 231 cu. in. (3 785 cm³)

** Coverage shown is for estimating purposes only. Actual jobsite coverage may vary according to substrate conditions and setting practices.

ADDITIONAL INFORMATION

Refer to the 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).

LEGAL NOTICE

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