

Planibond Hi-Mod Gel LPL

Long-Pot-Life, High-Modulus, Nonsag, Structural Epoxy Adhesive



FOR PROFESSIONAL USE ONLY

DESCRIPTION

Planibond® Hi-Mod Gel LPL is a high-modulus, high-strength, moisture-tolerant, zero-VOC, two-part, nonsag, structural epoxy adhesive designed for a wide variety of bonding and repair applications, while providing a long pot life and open time.

FEATURES AND BENEFITS

- 2:1 mixing ratio
- 100%-solids, solvent-free product with zero VOC content
- Nonsag, high-modulus and high-strength
- Moisture-tolerant
- Long pot life
- May be extended with graded sands
- Cures to a light gray color that is similar to concrete color

INDUSTRY STANDARDS AND APPROVALS

- ASTM C881: Types I, II and IV, Grade 3, Class C
- AASHTO M235: Types I, II and IV, Grade 3, Class C
- Available to be used in USDA- and CFA-inspected facilities

WHERE TO USE

- Use as a cap seal for pressure-injection epoxy grouting.
- Use as a binder for interior vertical and overhead repair.

- Use as a structural adhesive on concrete, wood and metal.
- Use as a pick-proof security sealant in correctional facilities.

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

SURFACE PREPARATION

- Before application, thoroughly clean the surface of any substance that could act as a bond breaker, including dirt, paint, tar, asphalt, wax, oil, grease, latex compounds, sealers, curing compounds, form-release agents, laitance, loose toppings, foreign substances and adhesive residue.
- Clean steel mechanically to remove any corrosion or coating (to a near white metal finish) before application of *Planibond Hi-Mod Gel LPL*.
- Mechanically clean and prepare concrete substrates by engineer-approved mechanical methods to obtain an ICRI Concrete surface profile (CSP) of ≥ 3 .
- Concrete substrate and ambient room temperatures must be between 40°F and 105°F (4°C and 41°C) before application. Temperatures must be maintained within this range for at least 72 hours after the installation of *Planibond Hi-Mod Gel LPL*. See the "Limitations" section below for precondition requirements.
- Substrates must be dry or damp. Do not apply *Planibond Hi-Mod Gel LPL* on standing water.

MIXING

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

- Premix the Part A epoxy resin and Part B curing agent independently before mixing together.
- When mixing *Planibond Hi-Mod Gel LPL*, empty 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 2-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 mixing 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.

PRODUCT APPLICATION

Read all installation instructions thoroughly before installation.

For use as a structural adhesive

1. Apply *Planibond Hi-Mod Gel LPL* to both sides of the hardened concrete to be adhered together.
2. Ensure to work the *Planibond Hi-Mod Gel LPL* into each substrate.
3. Adjoin both pieces together and firmly secure in place until dry.
4. The total adhesive bond line should not exceed 1/8" (3 mm).

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 Hi-Mod Gel LPL* to the shoulders of the port and extend epoxy to 1/2" (12 mm) on both sides of the crack, covering the crack between ports with epoxy applied to about 1/4" (6 mm) thick.

For use as a patching mortar or grout

- For repairing voids greater than 1/4" (6 mm), *Planibond Hi-Mod Gel LPL* may be blended with clean, dried, graded 20/40 silica sand to the desired gel-sand ratio, up to a maximum 1:1 ratio by volume.

Contact Construction and Restoration Systems (CRS) Technical Services with any questions.

CLEANUP

- Clean equipment before *Planibond Hi-Mod Gel LPL* cures to a hardened state using an appropriate solvent. Cured material can only be removed mechanically.

LIMITATIONS

- Remove water from wet or damp holes or joints with oil-free compressed air.
- Use on substrate with temperatures between 40°F and 105°F (4°C and 41°C). In hot weather, precondition *Planibond Hi-Mod Gel LPL* to 73°F (23°C) before use. In cool weather (below 73°F or 23°C), precondition *Planibond Hi-Mod Gel LPL* to 85°F (29°C) for easier application.
- As ambient temperatures increase, a reduction in pot life can be expected. Contact CRS Technical Services for more information.
- Do not thin with solvents.
- If using bulk-dispensing equipment, do not allow mixed epoxy to remain in a static mixer for more than 5 minutes, or epoxy may gel and blockage may occur.
- Do not place epoxy once it starts curing or gets hot or sticky, and do not disturb it while it cures.
- If used in exterior applications, *Planibond Hi-Mod Gel LPL* will discolor due to UV light.

Product Performance Properties

as tested under ASTM C881-13

Laboratory Tests	Results
Heat deflection temperature (ASTM D648) when cured at 73°F (23°C) at 7 days	122°F (50°C)
Absorption (ASTM D570) when cured at 73°F (23°C) for 24 hours	0.20%
Linear coefficient of shrinkage (ASTM D2566)	< 0.001 in./in. (0.025 mm/mm)
Gel time (ASTM C881), 60-gram sample	
Class C	> 300 minutes
VOC content (SCAQMD Rule 1168)	< 70 g per L

Typical VOC content per SCAQMD Rule 1168 testing methods	11 g per L
Consistency or viscosity	
Class C	Nonsag
Bond strength, 2-day cure (ASTM C882)	
Class C	1,900 psi (13.1 MPa)
Bond strength, 14-day cure (ASTM C882)	
Class C	2,700 psi (18.6 MPa)
Compressive strength (ASTM D695)	
Class C	> 6,000 psi (41.4 MPa)
Compressive modulus (ASTM D695)	
Class C	240,000 psi (1 655 MPa)

Shelf Life and Application Properties

Shelf life	2 years in original, unopened container at 73°F (23°C). Store at 50°F to 90°F (10°C to 32°C).

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.

Packaging

Size/Color	
Kit: 3 U.S. gals. (11.4 L)	
Pail, Part A: 2 U.S. gals. (7.57 L), dark gray	
Pail, Part B: 1 U.S. gal. (3.79 L), white	

CSI Division Classifications

Maintenance of Concrete	03 01 00
Epoxy Grouting	03 63 00

Approximate Coverage*

Size	Yield
1 U.S. gal. (3.79 L)	231 cu. in. (3 785 cm ³)
3 U.S. gals. (11.4 L)	693 cu. in. (11 356 cm ³)

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

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).

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. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **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.**

CONTACT INFORMATION

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For the most current product data and BEST-BACKEDSM warranty information,
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