



Planiseal™ Planiseal

LVB LVB 1168

Low-Viscosity Epoxies for Sealing Concrete Bridge Decks



Sand broadcast of Planiseal LVB after application

DESCRIPTION

Planiseal LVB and Planiseal LVB 1168 are two-component, very low-viscosity epoxy sealers designed to deeply penetrate into new or worn sound concrete. Planiseal LVB and Planiseal LVB 1168 seal hairline cracks and penetrate the concrete pore structure to form a subsurface barrier that effectively arrests carbonation as well as stopping the penetration of chloride ions into concrete decks. Both products significantly improve the durability and service life of concrete decks. Additionally, Planiseal LVB 1168 meets SCAQMD Rule 1168 for VOC limits.

FEATURES AND BENEFITS

- Very low viscosity penetrates and fills the finest hairline cracks
- Impede the intrusion of moisture and chlorides that lead to corrosion of reinforcing steel
- Structurally restore concrete surfaces
- Easy-to-mix (1:1 ratio)

INDUSTRY STANDARDS AND APPROVALS

- AASHTO T-259 chloride ion penetration resistance (90-day ponding)
- Meet USDA specifications for use in food-processing areas
- Planiseal LVB 1168 also meets SCAQMD Rule 1168 for VOC limits.

LEED Points Contribution

LEED Points

MR Credit 5, Regional Materials 10% and 20%* 1-2 points
Planiseal LVB 1168

EQ Credit 4.2, Low-Emitting Materials: Paint & Coatings 1 point

* Using this MAPEI product may help contribute to LEED certification of projects in the categories shown above. Points are awarded based on contributions of all project materials.

WHERE TO USE

For Professional Use

- Use on interior/exterior vertical and horizontal surfaces.
- Use on elevated concrete bridges or parking decks to arrest the intrusion of moisture and extend the service life of the structure.
- Use on horizontal on-grade or suspended concrete slabs not subject to high moisture vapor emissions.
- Use on columns and beams in splash zones or subject to exterior wetting.
- Use for consolidation of weak, friable or dusting surfaces.

LIMITATIONS

- Substrate application temperature must be between 55°F and 95°F (13°C and 35°C).
- Application should not exceed more than one flood coat.
- Do not apply over curing compounds.

SUITABLE SUBSTRATES

- Properly prepared concrete at least 28 days old, stable, dry and free of standing water
- Concrete substrate must demonstrate a tensile pull strength exceeding 250 psi (1,72 MPa).



- Elevated concrete decks or slabs, or slabs on grade with moisture vapor emission rate (MVER) below 3 lbs. (1,36 kg) (per ASTM F1869)
- Do not use on slabs on grade in freezing climates.

SURFACE PREPARATION

- Reference ACI 318-05R.
- Surface must be concrete at least 28 days old, sound, stable, dry and free of standing water.
- Repair spalls, delaminations, potholes and cracks with a suitable MAPEI repair product before the application of the *Planiseal LVB* product.
- Clean the concrete surface mechanically or by hydro- or bead-blasting. The concrete's surface must be clean, dry and free of frost. Remove all contaminants, dust and debris with oil-free compressed air.
- Before application on slabs on grade, perform a moisture test to ensure MVER is below 3 lbs. (1,36 kg) (per ASTM F1869).

MIXING

1. Precondition material to 65°F to 80°F (18°C to 26°C) before use.
2. Mechanically mix Part A with Part B at 1:1 by volume with "jiffy"-type mixer and low-speed variable drill at 300 rpm for 3 minutes. Mix only the quantity that can be used within its gel time.

PRODUCT APPLICATION

1. Within 5 minutes of mixing Parts A and B together, flood-coat the *Planiseal LVB* product onto the concrete.
2. Immediately distribute evenly and work into concrete for at least 5 minutes for maximum penetration. Continue to flood the *Planiseal LVB* product into cracks until refusal. Remove all excess with a straight-bladed squeegee on smooth surfaces and a broom on textured surfaces. Surface should appear damp but with no film buildup or ponding before broadcast.
3. Broadcast oven-dried silica sand to refusal (typically 20 to 30 mesh) over all areas coated with the *Planiseal LVB* product.
4. After initial cure, remove excess sand.

QUALITY ASSURANCE

The *Planiseal LVB* product contains a fluorescent tracer dye, which illuminates under black light. Core samples illuminated in this fashion will provide evidence of the *Planiseal LVB* product's penetration into the finest hairline cracks.

CLEANUP

- Ventilate the area. Confine any spill, collecting it with absorbent material and then flushing the area with water.
- Cured, the *Planiseal LVB* product can only be removed mechanically.

Product Performance Properties

Laboratory Tests	Results
VOCs for <i>Planiseal LVB 1168</i>	< 100 g/L
VOCs for <i>Planiseal LVB</i>	< 230 g/L
ASTM D2196 viscosity at 77°F (25°C)	40 cps
ASTM D1644 total solids	77%
ASTM D482 ash	0.3%
ASTM C881 filler content	0.0%
ITM 604 flexibility	No breaking or cracking of film
ITM 605 moisture permeability	0.3%
AASHTO T-259 chloride ion penetration resistance (90-day ponding)	100% effective
FED 141 set to touch	3 to 4 hours
ASTM D638 tensile strength	2,500 psi (17,2 MPa)
ASTM D638 tensile elongation	50%
ASTM C882 bond strength	3,000 psi (20,7 MPa)
ASTM C884 thermal compatibility	Pass
ASTM D570 absorption	0.2%
ASTM C883 shrinkage	Pass

Shelf Life and Application Properties

Shelf life	2 years in original unopened container. Store at 50°F to 80°F (10°C to 26°C).
Gel time	30 minutes
Pot life	About 1 hour in mass at 72°F (22°C); 20 minutes in thin film at 72°F (22°C)
Curing time	About 4 hours at a substrate temperature of 72°F (22°C)

Packaging

Product codes	Sizes
46768	<i>Planiseal LVB</i> , Part A: 5 U.S. gals. (18,9 L)
46769	<i>Planiseal LVB</i> , Part B: 5 U.S. gals. (18,9 L)
46777	<i>Planiseal LVB</i> , Part A: 55 U.S. gals. (208 L)
46778	<i>Planiseal LVB</i> , Part B: 55 U.S. gals. (208 L)
46868	<i>Planiseal LVB 1168</i> , Part A: 5 U.S. gals. (18,9 L)
46869	<i>Planiseal LVB 1168</i> , Part B: 5 U.S. gals. (18,9 L)
46877	<i>Planiseal LVB 1168</i> , Part A: 55 U.S. gals. (208 L)
46878	<i>Planiseal LVB 1168</i> , Part B: 55 U.S. gals. (208 L)

CSI Division Classifications

Traffic Coatings (reference ACI 318-05R)	07 18 00
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Approximate Product Coverage

Broom-finished concrete*	65 to 100 sq. ft. per U.S. gal. (1,59 to 2,45 m ² per L)
Steel-troweled concrete*	150 to 200 sq. ft. per U.S. gal. (3,67 to 4,9 m ² per L)

* Coverage rate depends on profile and porosity of concrete.

Performance Comparison of *Planiseal LVB* Products vs. Silanes/Siloxanes and MMA Systems

	<i>Planiseal LVB</i> products	Siloxanes/silanes	3-part MMA systems
Bond strength	Excellent	None	Poor
Tensile strength	Excellent	N/A	Fair
Waterproofing of surface	Excellent	Good	Good
Filling of cracks	Excellent	None	Good
Volatility when improperly mixed	No	N/A	Yes
Moisture sensitivity	No	Yes	Yes

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Refer to MAPEI's Material Safety Data Sheet (MSDS) for specific data related to VOCs, health and safety, and handling of product

STATEMENT OF RESPONSIBILITY

Before using, user shall determine the suitability of the product for its intended use and user alone assumes all risks and liability whatsoever in connection therewith. **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.**

We proudly support the following industry organizations:



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For the most current product and warranty data, visit www.mapei.com.

Edition Date: September 17, 2009

PR5743 LVBD_I09Evp © 2009 MAPEI Corporation.
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