Planiseal Traffic Coat

Epoxy Overlay for Vehicular and Pedestrian Traffic

FOR PROFESSIONAL USE ONLY

DESCRIPTION

Planiseal® Traffic Coat is a moisture-tolerant, 100%-solids, low-modulus, two-part, epoxy binder engineered for providing a skid-resistant overlay on elevated concrete decks.

FEATURES AND BENEFITS

- Offers an exceptionally durable decorative or skid-resistant overlay
- Provides a tenacious bond between aggregate and properly prepared concrete surfaces
- Moisture-insensitive
- Fast-curing with early film strength
- Easy to mix: 1-to-1 ratio by volume
- Low-modulus characteristic ensures superior compatibility with thermal movement in concrete

INDUSTRY STANDARDS AND APPROVALS

- ASTM C881-10: Type III; Classes A, B and C
- ACI 548.8M-07 for Type EM (epoxy multi-layer) polymer overlay for bridge and parking decks
- ACI 548.9M-08 for Type ES (epoxy slurry) polymer overlay for bridge and parking decks
- Meets AASHTO-AGC-ARTBA Task Force 34, October 1995
- USDA-compliant

WHERE TO USE

- Use on interior/exterior, horizontal concrete surfaces.
- Use on elevated concrete bridges and decks subject to frequent freeze/thaw cycles, de-icing chemicals, and stresses produced by severe humidity and temperature changes.
- Use to provide a durable, attractive and trafficable water-resistant coating system on balconies, parking garages and plaza decks.
- Use to provide a durable, protective skid-resistant overlay.
- Use to extend the life of concrete decks subject to abrasion and chloride attack.

SUITABLE SUBSTRATES

- Concrete at least 28 days old, stable and free of standing water
- Elevated concrete decks or slabs
- Slabs on grade with no rising moisture vapor. Before application on slabs on grade, perform a moisture test with a transparent plastic sheet for 6 to 24 hours (per ASTM D4263). If rising vapor is present for slabs on grade, alternate overlay systems or treatments are recommended.

SURFACE PREPARATION

Reference ACI 548.8M-07, Specification for Type EM (Epoxy Multi-Layer) Polymer Overlay for Bridge and Parking Garage Decks.

- Surfaces must be concrete at least 28 days old, sound, stable and dry.
- Repair spalls, potholes and cracks before the application of *Planiseal Traffic Coat*. *Planiseal Traffic Coat* can be used as an epoxy mortar and become an effective repair material, when 2 parts of dry sand are added per 1 part of mixed *Planiseal Traffic Coat*.
- Prepare surfaces by shotblasting or alternate mechanical means to achieve an International Concrete Repair Institute (ICR) concrete surface profile (CSP) of #5. Remove all contaminants, dust and debris.

MIXING

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

1. Precondition the material to between 65°F and 85°F (18°C and 29°C) before use.
2. Mix both Part A and Part B individually to ensure that all solids are evenly dispersed throughout each component.
3. Mechanically mix Part A with Part B at a ratio of 1 to 1 by volume with a 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.
4. Metered mix ratio pumps can also be used.

PRODUCT APPLICATION*

Read all installation instructions thoroughly before installation.

1. Apply the first coat of *Planiseal Traffic Coat* neat with a 3/16" (4.5 mm) notched squeegee at 1 U.S. gal. per 40 sq. ft. (3.79 L per 3.72 m^2).
2. Broadcast select aggregate to refusal at about 11 lbs. per 10 sq. ft. (4.99 kg per 0.93 m^2).

- Aggregate specification: Select angular aggregate, grain quartz silica sand, Oklahoma flint rock or basalt having less than 0.2% moisture and that is free of dirt, clay, etc. The aggregate must have a minimum Mohs hardness of 7, unless otherwise approved in writing by MAPEI's Technical Services for Concrete Restoration Systems.

3. Allow the first coat to cure, in accordance with the "Curing Times" table below, and then remove excess aggregate. Do not open to traffic.
4. Apply a second coat of epoxy at 1 U.S. gal. per 20 sq. ft. (3.79 L per 1.86 m^2).
5. Broadcast select aggregate into the second coat of epoxy at about 16 lbs. per 10 sq. ft. (7.26 kg per 0.93 m^2).
6. Allow to cure according to the "Curing Times" table.
7. Remove excess aggregate by power-blowing, sweeping or vacuuming.
8. Open to traffic.

** Application rates are theoretical and are for estimating purposes only. Actual spread rates depend on field conditions, as well as concrete profile and quality. Contact MAPEI's Technical Services Department for applications not listed.*

LIMITATIONS

- Use only between the temperatures of 55°F and 95°F (13°C and 35°C).
- For temperature above 85°F (29°C), take appropriate precautions to keep material cool.
- No additional ingredients are required; do not thin with solvents.
- Do not use across moving joints, or for sealing joints or cracks subject to hydrostatic pressure.

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

Product Performance Properties

Laboratory Tests	Results	ASTM C881 Specifications	ACI 548.8M/548.9M Specifications
VOC content (SCAQMD Rule 1113)	< 100 g per L	N/A	N/A
Typical VOC content per SCAQMD Rule 1113 testing methods	39 g per L	N/A	N/A
Compressive strength – ASTM C579, Method B			
At 3 hours	> 1,030 psi (7.10 MPa)	N/A	> 1,000 psi (6.90 MPa)
At 24 hours	> 5,000 psi (34.5 MPa)	N/A	> 5,000 psi (34.5 MPa)
Compressive modulus – ASTM D695	< 125,000 psi (862 MPa)	130,000 psi (897 MPa) maximum	N/A
Tensile strength – ASTM D638	> 2,250 psi (15.5 MPa)	None	2,000 to 5,000 psi (13.8 to 34.5 MPa)
Tensile elongation – ASTM D638	≥ 30%	30% minimum	30% to 70%
Modulus of elasticity – ASTM D638	< 12,000 psi (82.8 MPa)	None	13,050 psi (90 MPa) maximum

Bond strength, 14-day cure – ASTM C882	≥ 1,500 psi (10.3 MPa)	1,500 psi (10.3 MPa) minimum	None
Absorption – ASTM D570	< 0.50%	1.0% maximum	None
Gel time – ASTM C881	30 minutes	30 minutes (minimum)	15 to 45 minutes
Brookfield viscosity RVT No. 3 at 20 rpm – ASTM D2393	1,000 to 2,000 cps	2,000 cps maximum	700 to 2,500 cps
Shore "D" hardness – ASTM D2240	> 60	None	None
Linear coefficient of shrinkage – ASTM D2566	< 0.003 in./in. (0.003 mm/mm)	0.005 in./in. (0.005 mm/mm) (maximum)	None
Thermal compatibility – ASTM C884	Pass	Pass	Pass
Chloride ion permeability – AASHTO T277	< 100 coulombs	None	None
Flexural strength at 7 days – ASTM C348	> 3,000 psi (20.7 MPa)	None	None
Bond strength at 7 days – ASTM C1583	> 300 psi (2.07 MPa)	None	> 250 psi (1.72 MPa)

Curing Times

Average Temperatures of Overlay Component and Substrate				
Minimum Curing Time		**60°F to 64°F (16°C to 18°C)**	**65°F to 69°F (19°C to 21°C)**	**70°F to 74°F (21°C to 23°C)**
	Coat 1	4 hours	3 hours	2.5 hours
	Coat 2	5 to 6 hours	5 hours	4 hours
		75°F to 79°F (24°C to 26°C)	**80°F to 84°F (27°C to 28°C)**	**+85°F (+29°C)**
	Coat 1	2 hours	1.5 hours	1 hour
	Coat 2	3 hours	3 hours	3 hours

CSI Division Classification

Traffic Coatings	07 18 00

Shelf Life and Product Characteristics

Shelf life	2 years in original, unopened container. Store at 40°F to 90°F (4°C to 32°C).
Color (before mixing)	Part A: Yellow or clear Part B: Amber
Mixing ratio (Part A to Part B)	1 to 1 by volume
Gel time	> 30 minutes

Approximate Coverage**

Type of Coverage	For a Skid-Resistant Coating
Epoxy only	1st coat at 40 sq. ft. (3.72 m^2) per U.S. gal. (3.79 L) 2nd coat at 20 sq. ft. (1.86 m^2) per U.S. gal. (3.79 L)
With aggregate	1st coat at 11 lbs. (4.99 kg) 2nd coat at 16 lbs. (7.26 kg)

*** Coverage will depend on surface profile, particularly on the aggregate used.*

Packaging

Size
Part A epoxy resin
Pail, 5 U.S. gals. (18.9 L)
Drum, 55 U.S. gals. (208 L)
Tote: 275 U.S. gals. (1 041 L)
Part B curing agent
Pail, 5 U.S. gals. (18.9 L)
Drum, 55 U.S. gals. (208 L)
Tote: 275 U.S. gals. (1 041 L)

ADDITIONAL INFORMATION

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.

CONTACT INFORMATION

MAPEI Headquarters of North America
1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

Technical Services
U.S. and Puerto Rico:
Flooring: 1-800-992-6273
Concrete and heavy construction: 1-888-365-0614
Canada:
1-800-361-9309

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

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