PLANISEAL TRAFFIC COAT FS
Fast-Setting, Epoxy Overlay for Vehicular and Pedestrian Traffic

SECTION 07 18 00
Traffic Coatings

PART 1 GENERAL

1.1 SUMMARY

A. Products for concrete protection and sealing.

1.2 RELATED SECTIONS

A. Section 03 30 00 – Cast-in-Place concrete
B. Section 03 40 00 – Pre-cast concrete

1.3 REFERENCES

A. ASTM International:
   1. ASTM C881/C881M - Standard Specification for Epoxy-Resin-Base Bonding System for Concrete.

1.4 SUBMITTALS

A. Submit under provisions of Section 01 30 00 - Administrative Requirements.

B. Product Data: Submit manufacturer's data sheets and safety data sheets (SDS) on each product to be used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.

C. Samples: Submit samples of specified traffic deck system. Samples shall be construed as examples of finished color and texture of the system only.

D. Warranty: Submit copy of manufacturer’s standard warranty.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: Planiseal Traffic Coat FS, as supplied by MAPEI, is approved for use in this project.

B. Applicator Qualifications: Applicator shall be approved to install the specific system.

C. Field Sample:
   1. Install a sizeable field sample at the discretion of the engineer of record (EOR).
   2. Apply material in accordance with manufacturer’s written application instructions.
   3. Field sample will be standard for judging color and texture on remainder of project.
   4. Maintain field sample during construction for workmanship comparison.
   5. Do not alter, move or destroy field sample until work is completed and approved by owner’s representative.

D. Requirement of Regulatory Agencies: Comply with applicable codes, regulations, ordinances and laws regarding use and application of coating systems.

1.6 PRE-INSTALLATION MEETINGS

A. Convene at least two weeks prior to starting work of this section.

1.7 DELIVERY, STORAGE AND HANDLING

A. Deliver: Materials shall be delivered in original sealed containers, clearly marked with supplier's name, brand name, type of material and legible lot number.

B. Storage and Handling: Recommended material storage temperature is 75°F (24°C). Handle products to prevent damage to container. All materials shall be stored in compliance with fire and safety requirements. Do not store at high temperatures or in direct sunlight.

1.8 PROJECT CONDITIONS

A. Prior to starting work, read and follow the Safety Data Sheet (SDS) and container labels for detailed health and safety information.

B. Do not proceed with application of material when surface temperature is less than 40°F (4°C) or if precipitation is imminent. Ambient temperature should be a minimum 40°F (4°C) and rising, and more than 5 degrees Fahrenheit (2.8 degrees Celsius) above dew point. Special precautions are to be taken when ambient and/or surface temperatures are approaching, at, or above 100°F (38°C), and it may be necessary to limit material application to evening hours for exterior exposed decks.

C. Coordinate waterproofing work with other trades. Applicator shall have sole right of access to the specified area for the time needed to complete the application and allow the vehicular traffic coatings to cure adequately.

D. Protect plants, vegetation and other surfaces not to be coated against damage or soiling.

E. Keep products away from spark or flame. Do not allow the uses of spark-producing equipment during application and until all vapors have dissipated. Post "No Smoking" signs.

F. Maintain work area in a neat and orderly condition, removing empty containers, rags and rubbish daily from the site.

1.9 WARRANTY

A. Upon request, MAPEI shall offer a manufacturer's standard warranty for institutional, commercial, industrial and high-rise/multi-family residential projects only. A properly submitted warranty request form shall be submitted prior to start of project.

PART 2 PRODUCTS

2.1 MANUFACTURER

A. Product Performance:

Compressive strength – ASTM D695	6,500 psi (44.8 MPa)
Tensile strength – ASTM D638 at 7 days	2,000 psi (13.8 MPa)
Elongation at break – ASTM D638 at 7 days	55%

Bond strength – ASTM C882	
Moist, 14 days	> 1,500 psi (10.3 MPa)
Dry-cure, 24 hours	1,450 psi (10.0 MPa)
Dry-cure, 4 days	2,200 psi (15.2 MPa)
Gel time – ASTM C881, Section 11.2 60 grams at 73°F (23°C)	9 minutes

B. Acceptable Manufacturer:

MAPEI North America

1144 E. Newport Center Dr.; Deerfield Beach, FL 33442
Toll-Free for CRS Technical Services: Tel. 888-365-0614
Email: CRS@mapei.com
Web: www.mapei.com

C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

D. Substitutions: Not permitted.

2.2 TRAFFIC COATINGS

A. Two-part, low-modulus, fast-setting, 100%-solids epoxy bonding agent and binder engineered for providing a water- and skid-resistant broadcast overlay.

1. Product: Subject to compliance with requirements, provide MAPEI Corporation; Planiseal Traffic Coat FS.
2. Bond strength: 1,450 psi (10.0 MPa) at 24 hours, dry-cure, when tested according to ASTM C882.

2.3 ACCESSORIES

A. Miscellaneous materials such as cleaning agents, adhesives, reinforcing fabric, backer rod, deck drains, etc., shall be compatible with the specified traffic coat system.

PART 3 EXECUTION

3.1 EXAMINATION

A. Properly prepared concrete at least 21 to 28 days old, sound, stable, and dry or slightly damp.

B. Elevated concrete slabs or decks

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

3.2 PREPARATION

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

A. Prepare surface by shotblasting or other engineer-approved means to achieve a concrete surface profile (CSP) of #5. Surface must be clean of all dust, laitance, grease, curing compounds, waxes and other contaminants that can interfere with proper bonding.

B. Planiseal Traffic Coat FS can be used as an epoxy mortar and become an effective material to repair spalls, potholes and cracks. Add up to 3 parts of dry sand with 1 part of Planiseal Traffic Coat FS until the desired consistency is achieved.

3.3 MIXING

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

A. Precondition material to between 65°F and 85°F (18°C and 29°C) for optimal use.

B. Mix both Part A and Part B individually to ensure that all solids are evenly dispersed throughout each component.

C. Mechanically mix Part A with Part B at a 1:1 ratio by volume with an appropriate type of mixer and a low-speed variable drill at 400 to 600 rpm. Mix for 3 minutes until uniformly blended.

D. Metered mix ratio pumps can also be used, as long as the material is properly mixed when dispensed onto the substrate.

3.4 INSTALLATION

Read all installation instructions thoroughly before installation.

For use as a broadcast overlay:

A. Apply the first coat of Planiseal Traffic Coat FS 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 m²).

B. Broadcast select aggregate to refusal at about 11 lbs. per 10 sq. ft. (4.99 kg per 0.93 m²). 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 by the engineer of record.

C. Allow the first coat to cure, in accordance with the “Curing Times” table on the Technical Data Sheet, and then remove excess aggregate. Do not open to traffic.

D. Apply a second coat of epoxy at 1 U.S. gal. per 20 sq. ft. (3.79 L per 1.86 m²).

E. Broadcast select aggregate into the second coat of epoxy at about 16 lbs. per 10 sq. ft. (7.26 kg per 0.93 m²).

F. Allow to cure according to the “Curing Times” table on the Technical Data Sheet.

G. Remove excess aggregate by vacuuming.

H. Open to traffic.

For use as an epoxy mortar:

A. Slowly add up to 3 parts of oven-dried sand to 1 part of mixed Planiseal Traffic Coat FS until the desired consistency is achieved.

B. Mix from 2 to 3 minutes and apply immediately.

END OF SECTION