



Specifiers: Click on the ¶ icon in the WORD toolbar to reveal detailed instructions.

SECTION 07 18 00

TRAFFIC COATINGS

NOTE TO SPECIFIER This section is based on products of Pecora Corporation, manufacturers of joint sealants, traffic coatings and air barriers, located at:

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Harleysville, PA 19438
Toll Free: 800-523-6688
Tel: 215-723-6051
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This section specifies Pecora-Deck 8123HD Heavy-Duty Vehicular Traffic Coating System for demanding vehicular traffic applications utilizing high-solids-content, one-part, cold-liquid-applied, polyurethane coatings with aggregate. Contact your nearest Pecora product representative or Pecora Corporation at 1-800-523-6688 to assist with product selection, specifications and detailing

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Traffic coatings for heavy-duty vehicular traffic applications.

1.02 REFERENCE STANDARDS

- A. ASTM C 501 – Standard Test Method for Color Stability of Building Construction Sealants as Determined by Laboratory Accelerated Weathering Procedures.
- B. ASTM C 920 – Specification for Elastomeric Joint Sealants.
- C. ASTM C 957 – Specification for High-Solids Content, Cold Liquid-Applied Elastomeric Waterproofing Membrane with Integral Wearing Surface.
- D. ASTM D 412 – Standard Test Methods for Rubber Properties in Tension.
- E. ASTM D 522 – Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings.
- F. ASTM D 624 – Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers.
- G. ASTM D 903 – Standard Test Methods for Peel or Stripping Strength of Adhesive Bonds.

- H. ASTM D 1004 – Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
- I. ASTM D 1353 – Standard Test Method Using the Tabor Abrader for Abrasion Resistance of Dimension Stone Subjected to Foot Traffic.
- J. ASTM D 1653 – Standard Test Methods for Water Vapor Transmission of Organic Coating Films.
- K. ASTM D 4258 – Practice for Surface Cleaning Concrete for Coating.
- L. ASTM D 4259 – Practice for Abrading Concrete.
- M. ASTM D 4263 – Test Method for Indicating Moisture in Concrete by the Plastic Sheet Method.
- N. ASTM D 4541 – Standard Test Method for Pull-Off Strength of Coatings Using Portable Adhesion Testers.
- O. ASTM F 2170 – Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using In Situ Probes.
- P. UL 790 – Standard Test Methods for Fire Tests of Roof Coverings.

1.03 ADMINISTRATIVE REQUIREMENTS

- A. Preinstallation Conference:
 - 1. Convene conference before start of work.
 - 2. Review traffic coating requirements and application, mockups, results of substrate testing, scheduling of traffic coating work and protection.
 - 3. Establish procedures to maintain optimum working conditions and to coordinate the work with related work.

1.04 SUBMITTALS

- A. Submit under the provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: For each layer of traffic coating system, manufacturer's technical data, tested physical and performance properties and published installation instructions, including:
 - 1. Storage and handling requirements and recommendations.
 - 2. Substrate evaluation, preparation and treatment instructions.
 - 3. Mixing and application instructions including environmental conditions.
- C. Shop Drawings: For traffic coatings, indicate the following:
 - 1. Location and extent of traffic coatings.
 - 2. Treatment of substrate joints and cracks, deck penetrations, flashings and other terminations.
- D. Selection Samples: Three color charts illustrating available colors for initial selection.
- E. Verification Samples: Three samples minimum 4-inch (100 mm) square in size of coating mounted on plywood backing illustrating colors and textures selected.
- F. Qualifications: For installer.
- G. Product Certificates: Manufacturer's certification that traffic coatings comply with UL 790 for Class A roof covering on inclines up to 15 percent.

NOTE TO SPECIFIER Retain paragraph below for exterior applications in Dade and Broward County Florida as well as other jurisdictions that require a Miami-Dade NOA for exterior products.

- H. Evaluation Reports: Current Miami-Dade County Product Control Section Notice of Acceptance (NOA).
- I. Warranties: Sample of special warranties.

1.05 QUALITY ASSURANCE

- A. Applicator Qualifications: Engage installers trained, accepted and as recommended by manufacturer.
- B. Mockups: Provide mockup of size indicated or directed of each traffic coating application and substrate to receive traffic coating for evaluation of substrate preparation and application technique.
 - 1. Locate mockups where directed.

NOTE TO SPECIFIER Delete of the two options below.

- 2. Mockups may remain as part of work.
- 3. Mockups may not remain as part of work.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle products in strict compliance with manufacturer's instructions and recommendations.
- B. Store materials in original undamaged packaging, within temperature and humidity limits recommended by manufacturer; protect from direct sunlight.
- C. Store aggregate in dry area, prevent contamination with foreign materials.
- D. Remove and replace liquid materials that cannot be installed within their stated shelf life.

1.07 FIELD CONDITIONS

- A. Environmental Conditions: Maintain the temperature and humidity conditions within limits recommended by manufacturer to achieve optimum results. Do not apply traffic coatings to damp, wet or frozen substrates or when substrate temperatures are below 40 degrees F (4 degrees C) or above 100 degrees F (37 degrees C) without manufacturer's approval.
 - 1. Do not apply traffic coatings in snow, rain, fog or mist.
- B. Do not apply traffic coatings until items that penetrate the membrane are installed.

1.08 WARRANTY

- A. Refer to Section 01 78 00 – Closeout Submittals, for additional warranty requirements.
- B. Material Warranty: Provide manufacturer's standard 5-year limited material warranty commencing at date of Substantial Completion.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. Acceptable Manufacturer: Pecora Corporation; 165 Wambold Road, Harleysville, PA 19438-2014; Toll Free Tel: 800-523-6688; Tel: 215-723-6051; Fax: 215-721-0286; Web: <http://www.pecora.com>

NOTE TO SPECIFIER Delete one of the following two paragraphs; coordinate with requirements of Division 01 section on product options and substitutions.

- B. Substitutions: Not permitted.
- C. Substitutions: Requests for substitutions will be considered under the provisions of Section 01 60 00 – Product Requirements.
- D. Source Limitations: Obtain traffic coating materials, except aggregate, from the same manufacturer.

2.02 TRAFFIC COATING SYSTEMS

- A. General: Traffic-bearing, seamless, high-solids-content, one-part, cold-liquid-applied, polyurethane waterproofing system with integral slip-resistant wearing surface complying with ASTM C 957 and the following:
1. Fire Hazard Classification: Class A roof covering when tested in accordance with UL 790 on inclines of 15 percent or less.
- B. Heavy-Duty Vehicular Traffic Coating System: Pecora-Deck 8123HD:
1. System Components: Primer, base coat, two intermediate coats and topcoat.
 2. Dry Film Thickness: Minimum 61 mils (1.55 mm), not including aggregate.

NOTE TO SPECIFIER Retain one of the color options below. Include either of the first two options if colors will be selected after Contract is awarded. Select third option to specify one of Pecora's standard or non-standard colors. Include fourth option when Pecora colors are scheduled or otherwise indicated on the Drawings.

3. Surface Color: As selected from manufacturer's standard range.
4. Surface Color: As selected from manufacturer's full range.
5. Surface Color: Match Architect's sample.
6. Surface Color: As indicated on Drawings.
7. Surface Finish: Textured.

2.03 MATERIALS

NOTE TO SPECIFIER Delete options below for primers not required.

NOTE TO SPECIFIER Retain "Concrete and Metal Primer" option for projects consisting of elevated slabs and decks, and where local regulations require the use of a low-VOC primer

- A. Concrete and Metal Primer: Pecora P-801-VOC; single-component, polyurethane penetrating primer recommended for substrate conditions by traffic coating manufacturer, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Solids Content: 90 percent in accordance with ASTM D 1353.
2. Viscosity: 250 cps.
3. VOC Content: Less than 100 g/L in accordance with ASTM D 1353.
4. Tack Free Time: 60 minutes at 75 degrees F (24 degrees C) at 50 percent relative humidity.

NOTE TO SPECIFIER Retain "Epoxy Primer" option for projects consisting of slabs on ground where liquid moisture drive is a concern.

- B. Epoxy Primer: Pecora P-808 Two-Part Epoxy Primer; two- component epoxy primer, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Solids Content: 25 percent in accordance with ASTM D 1353
2. Viscosity (Mixed): 15 cps in accordance with ASTM C 881.
3. VOC Content: 667 g/L in accordance with ASTM D 3960.

NOTE TO SPECIFIER Retain "Penetrating Sealer" option for projects consisting of slabs on ground where liquid moisture drive is a concern and where a lower VOC content is desired.

- C. Penetrating Sealer: Pecora Dynapoxy Healer/Sealer Penetrating Epoxy Sealer; two- component epoxy sealer, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Viscosity: Less than 50 cps in accordance with ASTM C 881.
2. Chloride Ion Penetration Resistance: 100 percent effective, in accordance with AASHTO T-259.
3. Bond Strength: 2220 psi (15.31 MPa) in accordance with ASTM C 882.
4. Elongation at Break: 4 percent in accordance with ASTM D 638.
5. Tensile Strength: 3000 psi (20.68 MPa) in accordance with ASTM D 638.
6. VOC Content: 220 g/L in accordance with EPA Method 24.

NOTE TO SPECIFIER Retain "Epoxy Bonding Agent" option for projects consisting of slabs on ground where liquid moisture drive is a concern and where VOC regulations require compliance with SCAQMD Rule 1113 or CARB 2007 SCM (Suggested Control Measures).

- D. Epoxy Bonding Agent: Pecora Dynapoxy Low-Mod Epoxy Low Modulus, Low Viscosity Epoxy Bonding Agent; two-component bonding agent, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Viscosity: 4000 cps in accordance with ASTM C 881.
2. Chloride Ion Permeability: 0.9 coulombs, in accordance with AASHTO T-277.
3. Bond Strength: 3470 psi (23.92 MPa) after 14-day cure, in accordance with ASTM C 882.
4. Tensile Elongation: 49 percent in accordance with ASTM D 638.
5. Tensile Strength: 2610 psi (18.00 MPa) in accordance with ASTM D 638.
6. VOC Content: Less than 50 g/L in accordance with EPA Method 24.

NOTE TO SPECIFIER Detail base coat is applied to vertical and sloped surfaces to promote coating adhesion and prevent runs and drips.

- E. Detail Base Coat: Pecora-Deck 802T Detail Base Coat; one-part, cold-applied, thixotropic polyurethane coating, with the following physical properties:

NOTE TO SPECIFIER Delete "Physical Properties" subparagraph and subordinate clauses if product substitutions will not be considered.

1. Solids Content: 85 percent in accordance with ASTM D 1353.
2. Shore A Hardness: 65, plus or minus 5, in accordance with ASTM D 412.
3. Tensile Strength: 850 psi (9.65 MPa) in accordance with ASTM D 412.
4. Ultimate Elongation: 500 percent in accordance with ASTM D 412.

5. Tear Resistance: 150 lb./inch in accordance with ASTM D 624.
6. Pull-off Adhesion: 23 pli on primed concrete in accordance with ASTM D 903.
7. Low Temperature Flexibility: Minus 65 degrees F (minus 54 degrees C) in accordance with ASTM D 522.
8. Color: Manufacturer's standard.

F. Base Coat: Pecora-Deck 802 Base Coat; one-part, cold-applied, polyurethane coating, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Solids Content: 85 percent in accordance with ASTM D 1353.
2. Shore A Hardness: 65, plus or minus 5, in accordance with ASTM D 412.
3. Tensile Strength: 900 psi (9.65 MPa) in accordance with ASTM D 412.
4. Ultimate Elongation: 625 percent in accordance with ASTM D 412.
5. Tear Resistance (Die C): 150 lb./inch in accordance with ASTM D 1004.
6. Pull-off Adhesion: 400 psi on primed concrete in accordance with ASTM D 4541.
7. Low Temperature Flexibility: Minus 65 degrees F (minus 54 degrees C) in accordance with ASTM D 522.
8. Liquid Water Permeability: 0.0015 grains/hr./sq. ft. in accordance with ASTM D 1653.
9. Color: Manufacturer's standard.

NOTE TO SPECIFIER Delete Intermediate Coat option below if specified traffic coating applications include only base coat and topcoat.

G. Intermediate Coat: Pecora-Deck 804 Intermediate Coat; one-part, cold-applied, polyurethane coating, with the following physical properties:

NOTE TO SPECIFIER Delete options for physical properties if product substitutions will not be considered.

1. Solids Content: 80 percent in accordance with ASTM D 1353.
2. Shore A Hardness: 80, plus or minus 5, in accordance with ASTM D 412.
3. Tensile Strength: 2100 psi (14.47 MPa) in accordance with ASTM D 412.
4. Ultimate Elongation: 400 percent in accordance with ASTM D 412.
5. Tear Resistance (Die C): 200 lb./inch, plus or minus 50 lb. /inch, in accordance with ASTM D 1004.
6. Low Temperature Flexibility: Minus 65 degrees F (minus 54 degrees C) in accordance with ASTM D 522.
7. Liquid Water Permeability: 0.0039 grains/hr./sq. ft. in accordance with ASTM D 1653.
8. Color: Manufacturer's standard.

H. Topcoat: Pecora-Deck 806 Top Coat; one-part, cold-applied, polyurethane coating, with the following physical properties:

NOTE TO SPECIFIER Delete "Physical Properties" subparagraph and subordinate clauses if product substitutions will not be considered.

1. Solids Content: 75 percent, plus or minus 5 percent, in accordance with ASTM D 1353.
2. Shore A Hardness: 90, plus or minus 5, in accordance with ASTM D 412.
3. Tensile Strength: 3200 psi, plus or minus 500 psi (22.06 MPa plus or minus 3.44 MPa), in accordance with ASTM D 412.
4. Ultimate Elongation: 250 percent in accordance with ASTM D 412.
5. Tear Resistance (Die C): 350 lb./inch, plus or minus 50 lb. /inch, in accordance with ASTM D 1004.
6. Low Temperature Flexibility: Minus 65 degrees F (minus 54 degrees C) in accordance with ASTM D 522.
7. Abrasion Resistance: Less than 70 in accordance with ASTM C 501.

8. Liquid Water Permeability: 0.00028 grains/hr./sq. ft. in accordance with ASTM D 1653.
9. Color: As specified in "Traffic Coating Systems" Article.

NOTE TO SPECIFIER Delete Aggregate option below if textured finishes are not required.

- I. Aggregate: Dry, uniformly graded silica sand; free of clay, mica and organic matter; round to sub-angular shape; capable of passing through sieve of the size specified for each traffic coating system.

2.04 ACCESSORIES

- A. Joint Sealant: Nonsag, polyurethane joint sealant; ASTM C 920, Grade NS; color as selected from manufacturer's available colors.

1. Acceptable products include:

NOTE TO SPECIFIER Delete options for sealant not required.

- a. Single-Component, Class 25 Sealant: Pecora DynaTrol I-XL.
- b. Multiple-Component, Class 25 Sealant: Pecora DynaTred.
2. Color: Manufacturers standard matching adjacent surfaces.
3. Color: As selected by Architect from manufacturer's full range.

- B. Joint Sealant Primer: Pecora P-75 Primer.

- C. Backer Rod: Open cell, closed cell or combination type as recommended by joint sealant manufacturer for substrate conditions.

NOTE TO SPECIFIER Accelerator below reduces the curing time when the application temperature is between 40 and 70 degrees F (4 and 21 degrees C). Retain accelerator option below for most projects.

- D. Accelerator: Traffic coating additive for reducing cure time.
 1. Acceptable Product: Pecora-Deck 850 Accelerator.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Examine surfaces indicated to receive traffic coatings in accordance with manufacturer's written instructions.
- B. Verify that surfaces are ready to receive work specified herein and surfaces are clean, dry and free of substances that could adversely affect adhesive bond.
- C. Do not proceed with traffic coating application until unsatisfactory conditions are corrected.

3.02 PREPARATION

- A. General: Clean substrates in accordance with manufacturer's written instructions; remove dust, dirt, oil, grease, paints, rust, loose materials, sealants and other foreign substances.
 1. Leave surfaces ready to receive specified coatings.

NOTE TO SPECIFIER Delete options for concrete substrates that are not applicable to the project.

- B. New Concrete Substrates: Do not begin work until concrete substrates have cured at least 28 days and moisture content is 12 percent or less.

NOTE TO SPECIFIER Refer to Pecora Technical Bulletin #71 “Determining Moisture Content of Concrete Through Field Testing” for additional information.

1. Test concrete surfaces to determine moisture content or humidity in accordance with ASTM D 4263 or ASTM F 2110.
 - a. Concrete Moisture Content: No beading water under plastic after 16 hours per ASTM D 4263.
 - b. Humidity in Concrete: Not greater than 75 percent per ASTM F 2170.
- C. Concrete Substrates: Mechanically abrade surfaces to uniform profile acceptable to manufacturer in accordance with ASTM D 4259; remove concrete projections, laitance, efflorescence, form release agents, curing compounds, hardeners, sealers and coatings; clean and prepare surfaces to receive coatings in accordance with ASTM D 4258.
- D. Saw cut cracks greater than 1/16-inch (1.5 mm) in width and moving cracks less than 1/16-inch (1.5 mm) in width to 1/4-inch (6 mm) wide by 1/2-inch (13 mm) deep.
- E. Clean joints and saw cut cracks; install backer rod and joint sealant; tool joint sealant flush with adjacent surface.
- F. Prime surfaces indicated to receive traffic coatings as recommended by manufacturer. Apply primers at minimum rates as required for the specified traffic coating systems by manufacturer.
- G. Apply joint sealant at juncture of horizontal and vertical surfaces including projections through deck, curb, parking bumpers, walls and other surfaces; tool joint sealant to form 1-inch (25 mm), 45 degree cant.
 1. Install joint sealants in accordance with joint sealant manufacturer’s installation instructions
- H. Apply 6-inch (300 mm) wide, 30 mil (0,8 mm) thick coating of detail base coat material over hairline cracks, sealed cracks, cold joints and control and expansion joints up to 1/2-inch (13 mm) wide; allow to cure before applying base coat.
- I. Apply 30 mil (0,8 mm) thick coating of detail base coat material over vertical and sloped surfaces; allow to cure before applying base coat.
- J. Do not proceed with traffic coating application until unsatisfactory conditions are corrected.

3.03 APPLICATION – GENERAL

- A. Apply traffic coating system in accordance with manufacturer's instructions.
- B. Do not begin application of base coat until primers, joint sealants and other liquid preparatory work has cured minimum 24 hours.
- C. Apply each coat of traffic coating system at wet film thickness recommended by manufacturer to result in fully cured traffic coating of specified dry film thickness.
- D. Verify that wet film thickness of each coat complies with manufacturer’s recommendations every 100 sq. ft. (9.2 sq. m).
- E. Where textured surface finish is indicated, uniformly broadcast aggregate of sizes indicated onto coats at minimum rates recommended by manufacturer for specified traffic coating systems; back-roll aggregate into coating; uniformly distribute aggregate over surfaces. After coating material dries, sweep away excess aggregate.

- F. Apply traffic coatings to prepared vertical surfaces to height indicated; omit aggregate on vertical surfaces.
- G. Remove traffic coatings from surfaces not indicated to receive traffic coatings as the Work progresses using mineral spirits or isopropyl alcohol.
- H. Prevent contamination or damage to traffic coatings during application and curing periods.
- I. Allow final topcoat to cure 48 hours before opening areas to traffic.

3.04 APPLICATION – HEAVY-DUTY VEHICULAR TRAFFIC COATING SYSTEM 8123HD

- A. Apply primer to prepared concrete surface at rate of 250 to 350 sq. ft. per gallon (23.2 to 32.5 sq. m per 3.8 L).
- B. When primer is tacky to touch, apply base coat to minimum wet film thickness of 32 mils (0.81 mm).
- C. When base coat is tacky to touch, apply intermediate coat to minimum wet film thickness of 16 mils (0.41 mm).
- D. Uniformly broadcast aggregate passing No. 16 sieve at 10 lb. per 100 sq. ft. (4.5 kg per 9.2 sq. m) onto wet intermediate coat; immediately back-roll aggregate to encapsulate in coating material.
- E. When intermediate coat is tacky to touch, apply second intermediate coat to minimum wet film thickness of 16 mils (0.41 mm).
- F. Uniformly broadcast aggregate passing No. 20 sieve at 15 to 25 lb. per 100 sq. ft. (6.8 to 11.3 kg per 9.2 sq. m) onto wet intermediate coat; do not back-roll aggregate.
- G. When second intermediate coat is tack-free, sweep away excess aggregate and apply top coat to minimum wet film thickness of 16 mils (0.41 mm).

3.05 CLEANING AND PROTECTION

- A. Allow finished traffic coating to cure minimum of 48 hours before opening areas to traffic.
- B. Remove traffic coatings from surfaces not indicated to receive traffic coatings as the Work progresses using mineral spirits or isopropyl alcohol.
- C. Protect traffic coatings during and after curing period from contact with contaminating substances and from damage resulting from construction operations.
- D. Repair damaged or deteriorated coatings before Substantial Completion.

END OF SECTION