



# ENDURO-FLEX KOTE

## PRODUCT GUIDE SPECIFICATION

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) 3-Part Format, including MasterFormat, SectionFormat, and PageFormat, as described in The Project Resource Manual—CSI Manual of Practice.

The section must be carefully reviewed and edited by the Architect to meet the requirements of the project and local building code. Coordinate this section with other specification sections and the Drawings. Delete all “Specifier Notes” when editing this section.

Section numbers [and titles] are from MasterFormat 1995 Edition, with numbers [and titles] from MasterFormat 2004 Edition in parentheses. Delete version not required.

### **SECTION 07180 (07 18 13)**

#### **PEDESTRIAN TRAFFIC COATINGS**

Specifier Notes: This section covers Enduro Products “Enduro-Flex Kote” waterproof system for concrete and steel. Consult Enduro Products for assistance in editing this section for the specific application.

#### **PART 1 GENERAL**

##### **1.1 SECTION INCLUDES**

Specifier Notes: Edit the following sentence for concrete or steel substrate.

- A. Pedestrian traffic coating applied to [concrete] [steel] substrate.

##### **1.2 RELATED SECTIONS**

Specifier Notes: Edit the following list of related sections as required for the project. List other sections with work directly related to this section.

- A. Section 03300 (03 30 00) – Cast-in-Place Concrete.
- B. Section 07620 (07 62 00) – Sheet Metal Flashing and Trim.
- C. Section 07920 (07 92 00) – Joint Sealants.

##### **1.3 REFERENCES**

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- A. ASTM C 67 – Standard Test Methods for Sampling and Testing Brick and Structural Clay Tile.
- B. ASTM C 109 – Standard Test Method for Compressive Strength of Hydraulic Cement Mortars (Using 2-in. or [50-mm] Cube Specimens).
- C. ASTM C 297 – Standard Test Method for Flatwise Tensile Strength of Sandwich Constructions.
- D. ASTM D 570 – Standard Test Method for Water Absorption of Plastics.

- E. ASTM D 756 – Practice for Determination of Weight and Shape Changes of Plastics Under Accelerated Service Conditions.
- F. ASTM D 1242 – Standard Test Methods for Resistance of Plastic Materials to Abrasion.
- G. ASTM D 1499 – Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Plastics.

Specifier Notes: List standards referenced in this section, complete with designations and titles. This article does not require compliance with standards, but is merely a listing of those used.

- H. ASTM D 1668 – Standard Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing.
- I. ASTM D 2299 – Recommended Practice for Determining Relative Stain Resistance of Plastics.
- J. ASTM E 108 – Standard Test Methods for Fire Tests of Roof Coverings.
- K. ASTM G 152 – Standard Practice for Operating Open Flame Carbon Arc Light Apparatus for Exposure of Nonmetallic Materials.
- L. City of Los Angeles Research Report RR 24842.
- M. ICC-ES Acceptance Criteria for Walking Decks AC39.
- N. ICC-ES #2245.
- O. UL 790 – Standard for Standard Test Methods for Fire Tests of Roof Coverings.

#### 1.4 PERFORMANCE REQUIREMENTS

- A. Performance Requirements of Exposed Surface: Provide fire-retardant, waterproof, wearing surface for pedestrian traffic complying with ICC-ES Acceptance Criteria for Walking Decks AC39 and having following cured-state characteristics:
  1. Weatherometer Test, ASTM D 1499 and G 152, Model D or H, 2,000 Hours: No crazing, cracking, spalling, softening, or other surface deterioration.
  2. Accelerated Aging Test, ASTM D 756, Procedures D and E, 6 Cycles, and Procedures D, E, and F, 25 Cycles: Passed bond strength test.
  3. Fire Retardancy, ASTM E 108 and UL 790: Class A rating.
  4. Bond Strength, ASTM C 297:
    - a. After Accelerated Aging Test, ASTM D 756, Procedures D and E, 6 Cycles: Average 83 psi minimum.
    - b. After Accelerated Aging Test, ASTM D 756, Procedures D, E, and F, 25 Cycles: Average 82 psi minimum.
    - c. After Freeze Thaw Test, ASTM C 67: Average 104 psi minimum.
  5. Abrasion Resistance Test, ASTM D 1242, Method A: Did not exceed maximum loss in thickness allowed.
  6. Percolation: No noticeable leakage on each of 5 test specimens.
  7. Water Absorption Test, ASTM D 570: 8.7 percent by weight.
  8. Chemical Resistance Test, ASTM D 2299:
    - a. Unaffected By: Industrial detergent 20 percent solution, ammonia 5 percent solution, salt 20 percent solution, anti-freeze, kerosene, turpentine, and paint thinner.
    - b. Superficially Affected By: Chlorine 10 percent solution and sulfuric acid 3 percent solution.
    - c. Moderately Affected By: Muriatic acid 10 percent solution.
  9. Freeze Thaw Test, ASTM C 67: No breakage, weight loss, cracking, crazing, or delamination.
  10. Concentrated Load, Average Residual Indentation: 0.009 inch.
  11. Wind Uplift: Meets ICC-ES requirements for bond strength tests, after accelerated aging and freeze thaw tests.
  12. Compressive Strength Test, ASTM C 109: 5,450 psi.
- B. Performance Requirements of Underlayment:
  1. Bond Strength, ASTM C 297, Average 5 Specimens Each:
    - a. Flatwise Tension to Concrete: 110 psi.
    - b. Flatwise Tension to Metal: 115 psi.
  2. Controlled Rate Crack Bridging Test, elongation measured in tension at separation rate of 0.015 inch per minute, average 5 specimens: 748 percent.

## 1.5 SUBMITTALS

- A. Comply with Section 01330 (01 33 00) – Submittal Procedures.
- B. Product Data: Submit manufacturer's product data, including surface preparation and application instructions.
- C. Samples:
  - 1. Submit manufacturer's standard color chart for selection of color.
  - 2. Submit manufacturer's samples of pedestrian traffic coating, minimum 4 inches by 9 inches.
- D. Quality Assurance: Submit ICC-ES #2245.
- E. Manufacturer's Certification: Submit manufacturer's certification that materials comply with specified requirements and are suitable for intended application.
- F. Maintenance Instructions: Submit manufacturer's maintenance and cleaning instructions.
- G. Warranty: Submit manufacturer's standard warranty.

## 1.6 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Manufacturer regularly engaged, for preceding 10 years, in manufacture of pedestrian traffic coatings of similar physical characteristics to those specified.
- B. Applicator's Qualifications:
  - 1. Applicator regularly engaged, for preceding 5 years, in application of similar materials to those specified.
  - 2. Approved by manufacturer.
- C. Regulatory Requirements:
  - 1. ICC-ES #2245.
  - 2. City of Los Angeles Research Report RR 24842.

Specifier Notes: Edit pre-application meeting as required for the project.

- D. Pre-application Meeting:
  - 1. Convene pre-application meeting before start of application of pedestrian traffic coating.
  - 2. Require attendance of parties directly affecting work of this section, including Contractor, Architect, and applicator.
  - 3. Review examination, preparation, mixing, application, protection, and coordination with other work.

## 1.7 DELIVERY, STORAGE, AND HANDLING

- A. Delivery: Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly indicating the following on each container:
  - 1. Product name.
  - 2. Manufacturer.
  - 3. Material batch or lot number.
  - 4. ICC Evaluation Service report number.
  - 5. Quality control agency logo.
- B. Storage: Store materials in clean, dry area indoors, off ground, in accordance with manufacturer's instructions.
- C. Handling: Protect materials during handling and application to prevent contamination or damage.

## 1.8 ENVIRONMENTAL REQUIREMENTS

- A. When applying pedestrian traffic coating at air temperatures below 50° F or above 95° F, contact manufacturer regarding additives to be added in mixing liquids.
- B. Do not apply pedestrian traffic coating for 24 hours before or during rainy weather.

## 1.9 WARRANTY

- A. Warranty Period for Waterproofing Performance: 5 years from date of installation.

## PART 2 PRODUCTS

### 2.1 MANUFACTURER

- A. Enduro Products, 930-A East Orangethorpe Avenue, Anaheim, California 92801. Phone (714) 526-5898. Fax (714) 526-6511. Website [www.endurokote.com](http://www.endurokote.com). E-mail [info@endurokote.com](mailto:info@endurokote.com).

### 2.2 PEDESTRIAN TRAFFIC COATINGS

- A. Pedestrian Traffic Coating: Enduro-Flex Kote waterproof system for concrete and steel.
  1. Cementitious Powder: Enduro-Flex EFC-UL98 Cementitious Powder.
  2. Acrylic Polymer Dispersion: Enduro-Flex EFL-UL94 Acrylic Polymer Dispersion.
  3. Cementitious Mix: Enduro-Kote EKC Cementitious Mix.
  4. Acrylic Emulsion: Enduro-Kote EKL Acrylic Emulsion.
  5. Acrylic Color Coat: Enduro-Kote EKS Acrylic Color Coat.

### 2.3 ACCESSORIES

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to concrete substrate.

- A. Fiber Glass Reinforcement: ASTM D 1668, Type 111, organic resin treated.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Examine areas to receive pedestrian traffic coating.
  1. Verify deck will drain properly, without low spots or high fascia edges.
  2. Verify bonderized, galvanized sheet metal flashing at perimeter is as specified in Section 07620 (07 62 00), with joints and seams caulked as specified in Section 07920 (07 92 00).
  3. Verify plastic drains are not used.

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to concrete substrate.

- B. Concrete Substrate:
  1. Verify concrete is as specified in Section 03300 (03 30 00).
  2. Verify concrete is clean, dry, and sound, with steel-troweled, fine-broom finish.
  3. Verify concrete surface is free of loose particles, fins, ridges, voids, and air-entrained holes.
  4. Verify concrete is properly sloped for drainage.
  5. Verify concrete is cured a minimum of 28 days.

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to steel substrate.

- C. Steel Substrate: Verify steel surfaces are backed with rigid substrate with sufficient rigidity to avoid excessive deflection.
- D. Notify Architect of conditions that would adversely affect application or subsequent use.
- E. Do not begin surface preparation or application until unacceptable conditions are corrected.

### 3.2 PREPARATION

- A. Protection: Protect adjacent surfaces from contact with pedestrian traffic coating.
- B. Prepare surfaces to receive pedestrian traffic coating in accordance with manufacturer's instructions.

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to concrete substrate.

- C. Concrete Substrate: Remove dirt, dust, debris, oil, grease, curing agents, bond breakers, and other surface contaminants which could adversely affect application of pedestrian traffic coating.

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to steel substrate.

- D. Steel Substrate:
  - 1. Roughen surfaces sufficiently to ensure proper bonding.
  - 2. Remove dirt, dust, debris, oil, grease, and other surface contaminants which could adversely affect application of pedestrian traffic coating.

### 3.3 MIXING

- A. Mix materials in accordance with manufacturer's instructions.

### 3.4 APPLICATION

- A. Apply pedestrian traffic coating in accordance with manufacturer's instructions at locations indicated on the Drawings.

Specifier Notes: Include the following paragraph when applying pedestrian traffic coating to concrete substrate.

- B. Concrete Crack Isolation:
  - 1. Prepare minor cracks by routing out to a minimum of 1/8 inch in width and depth.
  - 2. Compress Enduro-Flex mixture into routed area and feather into adjacent substrate a minimum of 2 inches in each direction.
  - 3. Apply fiber glass reinforcement in accordance with manufacturer's instructions.
  - 4. Treat major cracks as construction, expansion, control, or isolation joints. Do not bridge these joints with pedestrian traffic coating.
- C. Pedestrian Traffic Coating:
  - 1. First Coat:
    - a. Trowel mixture until voids and pin holes are closed and sealed.
    - b. Minimum Thickness: 1/16 inch.
  - 2. Second Coat:
    - a. Trowel over first coat.
    - b. Minimum Thickness: 1/16 inch.
  - 3. Finish Coat:

Specifier Notes: Specify texture, smooth, or decorative finish coat.

- a. Texture Coat: Spray mixture uniformly over second coat to achieve surface texture equal to samples accepted by Architect.
- b. Apply smooth or decorative finish coat over second coat to achieve finish coat equal to samples accepted by Architect. Smooth coat shall meet standards for non-skid surface.

- c. Minimum Thickness: 1/16 inch.
- 4. Color Coat: Apply 2 uniform coats of color coat over finish coat.
- 5. Minimum Thickness of Completed Pedestrian Traffic Coating: 3/16 inch.

### 3.5 PROTECTION

- A. Protect completed pedestrian traffic coating from pedestrian traffic for a minimum of 24 hours after application of color coat.
- B. Protect completed pedestrian traffic coating from damage during construction and from continuous contact with solvents.

