

## **SAMPLE SPECIFICATION**

Section 02760 Paving Specialties

### **ROADCOLOR Epoxy Modified Bike Lane Coating System**

IDEAL FOR VEHICULAR BIKE LANE, BIKE LANES, for ASPHALT and CONCRETE SURFACES

#### **1.0 GENERAL**

##### **1.1 Summary**

ROADCOLOR "Epoxy Modified Bike Lane Coating" is a high quality water-borne acrylic finish incorporating an epoxy additive to increase the abrasion resistance properties of the film.

ROADCOLOR can be applied to new as well as existing concrete and asphalt surfaces.

##### **1.2 Advantages**

- Twin package, water-based system for ease of application and clean-up.
- Bonds tenaciously to concrete, masonry and asphalt surfaces.
- Resists ultraviolet degradation for long-term protection and color stability.
- Provides durable, non-skid texture on interior or exterior surfaces.
- Resists wear and abrasion through the incorporation of an epoxy additive.
- Protects against asphalt degradation by sealing in the vital oils of the asphalt mix.
- Helps prevent dusting and spalling of concrete surfaces.
- Surfaces resist penetration from general soils, motor oils and gasoline for ease in cleaning.
- No toxic fumes or objectionable odor. Meets all VOC requirements.

##### **1.3 Related Sections**

Section 1.0 General  
Section 2.0 Materials and Performance  
Section 3.0 Delivery Storage and Handling  
Section 4.0 Surface Preparation  
Section 5.0 Application  
Section 6.0 Coating Thickness  
Section 7.0 Applicator Training  
Section 8.0 Samples and Mockups  
Section 9.0 Field Quality Control

## **2.0 Materials and Performance**

### **2.1 Composition, Handling and Performance Characteristics**

This section covers the composition, handling and application characteristics for the ROADCOLOR Surfacing System. Coatings used with this surfacing system must meet the minimum characteristic and performance properties described in the following characteristics and performance specifications.

#### **2.1.1 ROADCOLOR Concrete and Asphalt Coating (Tint Base)**

Material Composition, Handling and Application Characteristics

**Table:1**

<b>Characteristics</b>	<b>Requirement</b>
ASTM D2369 % Solids by weight .....	> 76%
ASTM D26297 % Solids by volume .....	> 55.5%
Weight per gallon .....	13.9 lbs/gal
% non-reactive fillers .....	< 40%
Boiling Range .....	147° - 477°F
Vapor Density .....	Heavier than air
Flashpoint ASTM D 3278 .....	>201°F
Flashpoint ASTM D 3278 .....	>201°F
Hazardous Ingredients .....	none
Mix Ratio (Coating : LiquidTint) gal/pints .....	5gal : 1pint
Dry mil thickness per coat .....	10 to 15 mils
Recommended minimum number of coats.....	3

Performance Requirements

**Table:2**

<b>Test</b>	<b>Requirement</b>
Dry Time (to re-coat) @ 50°F (10°C).....	120 min
Dry Time (to re-coat) @ 90°F (32°C).....	30 min
85% Cure (to permit Bike Lane) @ 50°F (10°C).....	8 to 10 hours
85% Cure (to permit Traffic) @ 90°F (32°C).....	4 to 6 hours
Gloss: ASTM D523 (60° Gardner).....	2.5
Hardness: ASTM D3363 .....	3H pencil
ASTM 2486 Gasoline Scrub Resistance..... To 50% of coating thickness (30 mils).....	>5000 cycles to max loss of 50% coating thickness
ASTM 2486 Motor Oil Scrub Resistance..... To 50% of coating thickness (30 mils).....	>5000 cycles to max loss of 50% coating thickness
Temp. limits for service (of cured material) .....	-35°F to 145°F
ASTM G-155 Color Stability..... QUV 2,000 hrs (CIE units).....	Old Brick Color ΔE < .5
Pedestrian Friction ASTM E303 British Pendulum.....	88 BPN Dry 72 BPN Wet
Mandrel Bend Test ASTM D522.....	>3/16" Pass
Water Absorption ASTM D570 7day.....	<9%
VOC Content ASTM D3960.....	<19 grams/liter
Taber Abrasion Dry H-10 ASTM D4060 1day cure.....	.17g/1000 cycles
Taber Abrasion Wet H-10 ASTM D4060 7day cure.....	.43g/1000 cycles
Adhesion to Asphalt ASTM D4541 >245 lb./sq.in.....	Asphalt Cohesive Failure

**2.1.2 LiquidTint (ROADCOLOR coloring system)**

The coloring system "LiquidTint" shall consist of no less than 95% pure inorganic iron oxide pigments in a waterbase liquid carrier. Pigment particle size (fineness) must pass 95% minus 325 mesh. LiquidTint must be alkali resistant, water insoluble, inert, light resistant, inorganic, and lime-proof.

**3.0 Delivery, Storage and Handling**

**3.1 Packaging and Labeling**

All ROADCOLOR surfacing products shall be packed in standard closed containers. Each container of separately packaged component shall be clearly and durably labeled to indicate the date of manufacture, manufacturer's batch number, quantity, color, component identification and designated name or formula specification number together with special instructions.

### 3.2 Delivery, Storage and Handling

ROADCOLOR surfacing products shall be delivered to the site in sealed containers that plainly show the designated name, batch number, color, date of manufacturer, and name of the manufacturer. Store the material on site in enclosures, out of direct sunlight in a warm, ventilated and dry area at room temperature; do not allow coating to freeze. Care shall be taken in handling of coating containers to prevent puncture, inappropriate opening or other action, which may lead to product contamination. No materials that are past the coating manufacturer's recommended shelf life shall be used without the approval of the coating manufacturer.

## 4.0 **Surface Preparation**

### 4.1 Cleaning

Broom using mechanical brooming device, or stiff bristle hand broom. Scrape and blow fine sand and debris off of surface. Pressure washing may be necessary to remove bonded debris. Use a non-solvent based degreaser to remove stains. Spray degreaser on stained area and let stand for 15 minutes. Using a stiff broom or brush, agitate the stained area to remove stain and rinse with water. Repeat this procedure on severe stains. Thoroughly rinse the area and let dry for 24 hours.

### 4.2 Repair Damaged Asphalt

Damaged and cracked asphalt shall be repaired by heating damaged area until the asphalt cement is in a liquid state (ensuring asphalt does not exceed 325° F), turning over and mixing in new fresh asphalt if necessary to ensure repair is level with adjacent area. Infrared type heating mechanisms are the recommended tool for this procedure.

### 4.3 Preparation of New Asphalt

New asphalt surfaces shall be allowed to cool after final compaction roll to less than 140° F before applying coating. Asphalt mix design shall be specified by a qualified Pavement Engineer and shall be designed for the purpose of the application.

## **5.0 Application**

### **5.1 Environmental Conditions**

Surfaces should be dry for at least 24 hours prior to applying ROADCOLOR coatings. 50°F is the recommended minimum air and surface temperature. The temperature of the concrete or asphalt surface must be at least 5°F above the dew point temperature during and after applying coating. Coating application must be complete at least two hours before sunset to allow for proper cure.

### **5.2 Masking**

Mask all adjacent areas using paint-grade masking tape. Use duct taped on concrete and asphalt surfaces. Building paper extended a minimum of 48 inches beyond the edge of coated area is required to prevent over-spray of coatings onto adjacent areas.

### **5.3 Spray Equipment**

Spray texture gun (Marshalltown® Sharpshooter I™ Hopper Gun).  
Graco "TexSpray" and Benron "EZ-TEX DX" sprayers.

Spray gun settings and alternative spray equipment shall be approved by the coating manufacturer.

## **6 Coating Thickness**

6.1 Standard Thickness. The applied thickness of the coating shall be determined according to the application as noted in table 5. The owner may specify a greater thickness if so desired.

**Required Film Thickness**

**Table: 5**

<b>Application</b>	<b>Film Thickness</b>
Base coat .....	20 wet mils (12 dry mils)
Top coats per application .....	20 wet mils (12 dry mils)

**7 Applicator Training**

7.1 The Applicator shall be approved by the manufacture for the application being applied. The Applicator shall have lead personnel on the project that have been trained by manufacturer within the past 12 months of starting the project. At least one of these trained personnel shall be on site at all times during the application.

**8 Samples and Mockups**

Samples shall be provided to the owner (or owners representative) for approval prior to tender closing.

Samples shall display the following:

Samples and mockups to be applied to and presented on 24" x 24" x 1/4" hardboard panels unless otherwise requested.

Approval of color to be provided in writing to the bidding contractor no less than 7 days prior to bid closing.

Approved samples and mockups to be held by owner for future onsite verification.

**9 Field Quality Control**

9.1 The contractor for work under this section shall maintain a quality control program specifically to verify compliance with this specification. A daily log shall be kept to record actions in the field.

- 9.2 This log shall include the following information;
1. Surface preparation start date and time
  2. Photos of surface prior to start of preparation
  3. Ambient temperature start and end of each day
  4. Relative humidity start and end of each day
  5. Substrate surface temperature start and end of each day
  6. Photos of surface after application of each coat

Note:

On projects larger than 5,000 square feet, break project into areas of approximately 5,000 square feet for the purpose of photo taking and record keeping. Number these areas and record the respective numbers on scaled drawing.

- 9.3 Dry film thickness shall be confirmed by the owner (or owners representative) on site during the application process.

Method:

2" x 4" lengths of duct-tape (or 2" x 4" thin plastic, glass or metal plates) shall be secured to the substrate that will receive coating. The tape will be randomly placed averaging one tape per 300 sq ft. These tapes shall be pre-marked (on the adhesive side) with location matching a marked, scaled drawing. The tape shall be removed within 1 hour after the final coat has been applied. These samples shall be kept by the owner (or owners representative) for future verification of dry film thickness (if verification becomes necessary).