

**SPECIFICATION
COLORIZED COATINGS**

1. USE: Colorized coating materials are advanced waterborne coatings that combine color fast acrylic resins and an advanced epoxy modification to provide long lasting, color stable, lane delineation. Colorized coatings feature anti-slip properties, specially designed to add friction for pedestrians and bicyclists without creating trip hazards. It has excellent adhesion and flexibility properties, and will not crack, peel or flake off the substrate. Colorized coatings are extremely chemical resistant as it is impervious to gas, oil and de-icing agents. Colorized coatings are recommended for long lane, no to low traffic delineation areas for preferential use, such as bike lane, bus lane, medians, no stopping areas and pedestrian zones.

2. MATERIAL:

2.1. Colorized coatings shall be composed of:

2.1.1. Coatings: A two component, epoxy-modified, acrylic, waterborne coating specially formulated to have a balance of properties that will ensure adhesion and movement on a flexible pavement, while providing excellent durability, color stability and friction properties.

2.1.2. Colorant: A highly concentrated, high quality, UV stable pigment blend designed to add the desired color to the coating.

2.2. Typical Characteristics of Coating Material:

<u>Product Characteristic</u>		<u>Test</u>
Solids by volume	55% +/- 2%	ASTM D 2697
Solids by weight	70% +/- 2%	ASTM D 2369
Density	13.3 lb/gal	ASTM D 1475
VOC	<20 g/l	ASTM D 3960-05 (EPA-24)

2.3. Material must be designed for application onto asphalt pavement surfaces but can be applied to non-bituminous concrete surfaces, such as portland cement concrete, with use of a concrete primer.

2.4. Material shall be applied in 4 thin layers, allowing each layer to dry to the touch in between, to provide a total dry build thickness of 20-25 mils (0.51-0.635mm).

3. APPLICATION: Material shall be applied to the pavement surface using the methods outlined in the coating manufacturer's application instructions.

3.1. Preconditions:

3.1.1. Surface Prep: The pavement surface shall be completely dry and free from all foreign matter. Concrete surfaces shall require additional surface preparation to remove any laitance from the surface. A waterborne concrete primer, as recommended by manufacturer, shall be applied according to application instructions and shall be allowed to dry to the touch before applying coatings.

3.1.2. Weather: Optimal installation temperatures are between 70-90F, with low humidity. Minimum air and substrate must be 50F and rising, and shall not drop below 50F within 8 hours of application of the last layer of coating. Increase in drying and curing times shall be expected at lower temperatures, and during high humidity. No precipitation shall be expected within 2 hours after the last layer of the coating is dry to the touch.

3.1.3. Obstacles: Pavement markings that are to be left in place, utilities, drainage structures, curbs and any other structure within or adjacent to the treatment location shall be masked to protect from application. Existing pavement markings conflicting with the surface treatment should be removed by grinding or water blasting. Extra care should be taken to thoroughly remove the dust and debris caused from grinding.

3.2. Mixing: Part B, Colorant and 1 quart +/- 0.5 water shall be added to Part A and mixed thoroughly, creating a vortex, using a high speed high torque drill and paddle for a minimum of 3 minutes.

3.3. Installation:

3.3.1. Initial Layer:

3.3.1.1. Small projects: Distribute initial layer of coatings to the pavement using a soft bristle broom and / or 1" - 1.5" nap roller. Ensure a thin build with even distribution.

3.3.1.2. Large or small projects: Each layer of coating application shall be spray applied using a double diaphragm spray system with an air atomized textured spray gun. Coatings shall be broomed using a soft bristle broom to work the material into the surface.

3.3.2. Additional Layers: The first layer and each additional layer of coating shall be allowed to dry to the touch before applying the next layer. The last layer shall be rolled, or spray and rolled, using a 1" – 1.5" nap roller to provide additional friction properties. Environmental factors such as air and substrate temperature, humidity, sun and wind will affect dry times. Conditions that improve ability for moisture to evaporate will have positive effects on dry times.

3.3.3. Coverage: Coating material shall cover approximately 175 sq. ft. (16.3 m²) per mixed pail, using the recommended 4-layer system. While building the coating in layers, there will be less coverage with the first layer and greater coverage with subsequent layers.

3.4. Open to Traffic: Coating material shall be allowed to cure before being exposed to traffic. The longer they are allowed to cure, the better they will perform. Coatings shall be left for a minimum of 12 hours after the last layer is dry to the touch before traffic is introduced.

3.5. Clean up: Tooling and equipment shall be cleaned only with water while coatings are still wet. Remove masking. Dispose of all materials in accordance with all applicable federal, state and local laws and regulations.

4. PERFORMANCE PROPERTIES OF COLORIZED COATING

4.1. Key properties will include wear and crack resistance, color retention, adhesion, minimal softening from water absorption and anti-slip.

<u>Product Characteristics</u>		<u>Test</u>
Dry Time (to recoat)	~35 min	ASTM D 5895 (23°C; 37% RH)
Taber Wear Abrasion - Dry H-10 wheel	≤ 0.98 g/1000 cycles	ASTM D 4060 (1 day cure)
Taber Wear Abrasion - Wet H-10 wheel	≤ 3.4 g/1000 cycles	ASTM D 4060 (7 day cure)
Hydrophobicity - Water Absorption	~ 8.3%	ASTM D 570
Shore Hardness	60 +/- 3	ASTM D 2240, Type D
Mandrel Bend	1/4 in @ 21° C	ASTM D 522-93A
Permeance	3.45 g/m ² /hr (52 mils)	ASTM D 1653
Adhesion to Asphalt	Substrate Failure	ASTM D 4541
Friction (Wet)	>60 BPN	ASTM E 303

5. TECHNICAL SERVICES: The successful bidder shall provide technical services as required.