

## SPECIFICATION

### Methyl Methacrylate Bike Lane Treatment (MMA Bike Lane System)

1. **USE:** Methyl Methacrylate Bike Lane Treatment (the MMA Bike Lane System) is a specialized system of bike lane treatment material that combines state-of-the-art Methyl Methacrylate resins with hardwearing aggregate and premium pigments to deliver an extremely durable, highly visible and color stable, lane delineation treatment that meets the non-slip requirements needed for cyclists.

MMA Bike Lane System shall be used to delineate bike lanes and increase bicycle lane presence in applications such as, but not limited to, corridor treatment along the length of a bike lane or cycle track especially at areas where bicycle and vehicular conflict are expected and added safety is needed.

2. **MATERIAL:** Materials used to create MMA Bike Lane System shall consist of the MMA system resin, the MMA system Aggregate and catalyst.

**2.1. MMA Bike Lane System resin.**

**2.1.1.** MMA Bike Lane System resin shall have the following properties:

Density	12.85 +/- .15	Lbs/Gal
Tensile	>2000 psi	ASTM D638
Elongation	>70%	ASTM D638
Flash Point	>10°C	ASTM D1310

**2.1.2.** MMA Bike Lane System resin shall be pigmented to meet the following color coordinates:

**2.1.2.1.** Daytime chromaticity:

1		2		3		4	
X	y	x	y	x	y	x	y
0.230	0.754	0.266	0.500	0.367	0.500	0.444	0.555

The daytime luminance factor (Y) shall be at least 20, but no more than 35.

**2.1.2.2.** Nighttime chromaticity:

1		2		3		4	
X	y	x	y	x	y	x	y
0.230	0.754	0.336	0.540	0.450	0.500	0.479	0.520

- 2.2. **MMA Bike Lane System aggregate** shall be provided by the manufacturer and will have a hardness of 9 on the Mohs scale. Aggregate shall be a neutral, light color that will not affect the color of the finished product, and will have a mesh sizing of 24 Grit.

- 2.3. **Catalyst** shall come in a powder form and be supplied in bulk at the maximum usage rate of 0.51 +/- 0.2 lbs (.23 +/- .09 kg) per pail of resin.

3. **APPLICATION EQUIPMENT:**

3.1. **Squeegees** shall be designed for heavy duty usage and sourced locally.

3.2. **Rollers** shall be medium nap in texture and require a roller cage and handle.

3.3. **Drill** shall be high speed, high torque capable of supplying enough power to thoroughly mix MMA Bike Lane System additives when paired with a paint mixing paddle.

4. **APPLICATION:**

- 4.1. **Pre-conditions.** Aged surfaces containing reflective cracking should be repaired, or it should be expected that reflective cracking may re-appear.

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- 4.2. Surface preparation.** Clean the intended application area thoroughly. All loose particles, dirt, sand dust, etc. must be removed. Broom and use a power blower or compressed air. The surface must be clean, dry and free of all dust, oil, debris and any other material that might interfere with the bond between MMA Bike Lane System and surface to be treated.
- 4.2.1. Concrete:** All curing compounds shall be completely removed from concrete surfaces prior to installation by shot blasting or grinding. Existing concrete surfaces shall be wire brushed, but may require shot blasting or grinding dependent on condition.
- 4.2.2. Chemical contaminants:** Clean areas containing chemical contaminants such as vehicle fluids, using a degreasing solution, and ensure removal of contaminants and degreasing solution well in advance of the application.
- 4.2.3. 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.
- 4.3. Mixing.** Catalyst quantity shall be based on ambient and pavement temperature and must be mixed very thoroughly at specified rates and into materials listed in the materials mixing guide. Material shall mix to approximately 2.79 gallons (10.55 liters) and weigh approximately 52 lbs (23.6 kg).

#### MATERIALS MIXING GUIDE

MMA Bike Lane System resin		2 (7.6)	gallons (liters)
MMA Bike Lane System aggregate		25.7 (11.7)	lbs (kg)
Catalyst	< 70°F / 18°C	12 (.365)	fl. oz. (liters)
	70-90°F / 18-32°C	6 (.185)	fl. oz. (liters)
	> 90°F / 32°C	3 (.09)	fl. oz. (liters)

- 4.4. Installation.** MMA Bike Lane System shall immediately be poured on to pavement and distributed at 45-50 sq. ft. per pail using a squeegee. Trowels can be used where a squeegee is not effective. Use roller to back roll the MMA Bike Lane System material to remove working lines and create a consistent, anti-slip texture. Remove masking as material gels, but before it cures.
- 4.5. Opening to traffic.** MMA Bike Lane System must be 100% cured, which will be a hardened solid state, before traffic is permitted. Curing typically takes 30-60 minutes and is based on temperature and amount of catalyst added.
- 5. PERFORMANCE PROPERTIES:**
- 5.1.** MMA Bike Lane System will have the following performance properties:

Density	18.5 +/- 0.5	Lbs / Gallon
Solids	>99%	D2205
Build Thickness	90 +/-10	Mils
VOC	<100	Grams/Liter
Pot Life	~15min	AASHTO T237
Skid	>60	ASTM E303
Hardness	50-60	ASTM D2240
Water Absorption	<0.25%	ASTM D570

**6. PACKAGING:**

- 6.1.** MMA Bike Lane System resin must be supplied in compliant metal pails that have a UN1A2Y1.9/100 rating.
- 6.2.** MMA Bike Lane System aggregate must be supplied in 25.5 +/- 0.5 lbs. (11.7 +/- .23 kg) pre-packaged bags or pails.

- 7. TECHNICAL SERVICES:** Shall be available from the manufacturer upon request.