

APPENDIX 'C' – MMAX AREA MARKINGS SPECIFICATION

MMAX AREA MARKINGS SPECIFICATION

Methyl Methacrylate Area Marking with Anti-Skid

1. **USE:** MMAX AREA MARKINGS conveniently combine 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 pedestrians, cyclists and vehicles.
 - 1.1. MMAX AREA MARKINGS are only available through Ennis-Flint, or an authorized distributor of Ennis-Flint.
 - 1.2. MMAX AREA MARKINGS are available in a variety of colors.
2. **MATERIAL:** Materials used to create MMAX AREA MARKINGS shall consist of MMAX AREA MARKING Pre-pigmented Resin, MMAX AREA MARKING Hardwearing Aggregate and Catalyst.

2.1. MMAX AREA MARKING Resin.

2.1.1. MMAX AREA MARKING Resins shall have the following properties:

Density	12.8+/- 0.35	Lbs/Gal
Tensile	>2000 psi	ASTM D638
Elongation	>70%	ASTM D638
Flash Point	>50°F / 10°C	ASTN D1310

- 2.2. MMAX AREA MARKING 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 mixed pail of resin and aggregate.

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 MMAX AREA MARKING 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.
- 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 MMAX AREA MARKING's and the 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).

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4.3.1. Materials Mixing Guide:

MMAX AREA MARKING Resin:	2 gallons <i>(7.6 liters)</i>
MMAX AREA MARKING Aggregate:	25.7 lbs <i>(11.7 kg)</i>
CATALYST (temperature dependent):	
> 90°F / 32°C	3 fl. oz. <i>(.09 liters)</i>
70-90°F / 18-32°C	6 fl. oz. <i>(.185 liters)</i>
< 70°F / 18°C	12 fl. oz. <i>(.365 liters)</i>

4.4. Installation. MMAX AREA MARKING’s shall immediately be poured onto the 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 MMAX AREA MARKINGS 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. MMAX AREA MARKING’s 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. MMAX AREA MARKING’s 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. MMAX AREA MARKING Resin must be supplied in compliant metal pails that have a UN1A2Y1.9/100 rating.

6.2. MMAX AREA MARKING 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.