MARK-55.3

Fast Dry Epoxy Pavement Marking System

Please use this Technical Data Sheet (TDS) in conjunction with this product's country-specific Safety Data Sheet (SDS) and the Safe Use conditions as described therein. Current Safety Data Sheets can be requested from Olin POLY-CARB at customerservice@poly-carb.com.

Description

100% solids two part epoxy long line pavement marking.

Introduction

MARK-55.3 consists of a two-part 100% solids epoxy available in traffic safety colors to be used as a long life pavement marking system. A long life, highly reflective surface is obtained by broadcasting reflective glass beads immediately after the application of **MARK-55.3** system. **MARK-55.3** provides long-term performance on both asphalt and concrete surfaces.

Typical Applications

Concrete and asphalt roadways requiring long life and high reflectivity, as well as a fast return to service due to the accelerated track free time. **MARK-55.3** is capable of being applied in temperatures as low as 35°F.

Typical Properties

Properties of MARK-55.3 Part A and Part B

	PART A*	PART B
Color	White, Yellow**	Amber
Mixing Ratio	2 volumes	1 volume
Percent Solid	100%	100%
Shelf Life	1 year	1 year

*Part A contains TMPTA (Tri-Methylol Propane Tri-Acrylate) and other multi-function monomers.** Custom safety colors available.

Properties of MARK-55.3 Mixed Part A and Part B

Color	White (FS 595 Color 37925) Yellow (FS 595 Color 33538)
Gel Time 25ºC (75º ± 2ºF)	<5 minutes (100 grams)
Track Free Time 25ºC (75º ± 2ºF)	15- 20 minutes
Final Cure 25ºC (75º ± 2ºF)	8-12 hours

Properties of Cured MARK-55.3

Adhesion to Concrete	100% Failure	ACI-503
Shore D Hardness	75-95	ASTM D-2240
Compressive Strength	13,000-15,000 psi	ASTM D-695
Tensile Strength	6,000-9,000 psi	ASTM D-638
Abrasion Resistance - Wear Index CS-17 Wheel,1000 cycle,1000 gms	< 80 milligrams	ASTM C-501

Application

METHOD OF APPLICATION

MATERIAL CONTAINERS ARE RECOMMENDED TO BE STORED IN A TEMPERATURE RANGE OF 65ºF TO 85ºF (20ºC TO 30ºC) FOR AT LEAST 24 HOURS PRIOR TO USAGE TO ENSURE PROPER MIXING AND APPLICATION PROPERTIES.

Surface Preparation: The surface must be free from oil, grease and any other contaminants. Old paint, sealers and curing compounds shall be removed by scarification or shot blasting methods. For best results the surface should be dry. On new concrete surface, shot blasting or sandblasting is recommended to remove curing compound and laitance.

Application: For proper application of **MARK-55.3 System**, the epoxy pavement marking compounds shall be applied through machinery designed to precisely meter the two components in a 2:1 ratio. This equipment shall also be designed to produce the required amount of heat at the mixing head and gun tip specified further in this specification and to maintain those temperatures within the tolerances specified. Viscosity charts for the material are available upon request.

Repairs and Corrections: In case of poor mixing and inaccurate proportions due to equipment problems, the entire defective application shall be completely cleaned to the bare substrate, either by grinding or sandblasting. No capping shall be allowed on the bad spots without a complete removal.

Application Temperatures

Application Temperatures:

A. ***Individual Components:*** Before mixing, the individual component shall be heated to the following temperatures.

Component "A"	80°F (26.7°C) to 140°F (60°C)
Component "B"	80°F (26.7°C) to 140°F (60°C)

The upper limit of this specification is the maximum temperature recommended under any circumstances.

B. ***Mixed Material:*** After mixing the recommended application temperatures for the combined material at the gun tip shall be as follows:

Mixed Material	80°F (26.7°C) to 140°F (60°C)

NOTE: *Any exceptions* to the above-specified procedure must have the approval of Olin POLY-CARB.

Application Equipment

The equipment shall have a system capable of spraying both yellow and white epoxy listed in the manufacturer's recommended proportions and is mounted on a truck of sufficient size and stability with an adequate power source to produce lines of uniform dimension and prevent application failure. It shall be capable of placing stripes on the left and right sides, and of placing two (2) lines simultaneously with either line in a solid or intermittent pattern in yellow or white and of applying glass beads at a rate of at least 25 pounds per gallon.

All guns must be in full view of operators at all times. The equipment shall be provided with a metering device to register the accumulated installed footage for each gun each day. Shall include at least one (1) operator who shall be a technical expert in equipment operations and epoxy application techniques. A solvent free impingement-type spraying head or a minimum 24" length of kinetic tube mixing head is required for proper mixing of the two (2) components prior to its application. Certification of equipment and the type meeting these specifications must accompany each bid.

Coverage

Coverage per gallon (in mils) according to the following table:

Concrete/asphalt pavements	20 mils min.
Open grade pavement	25 mils min.

	Width	5 Mils	10 Mils	15 Mils	20 Mils	25 Mils	30 Mils
MARK-55.3	4"	960'	480'	320'	240'	192'	160'
Ln. Ft./Gal.	6"	640'	320'	214'	160'	128'	107'
	8"	480'	240'	160'	120'	96'	80'
Glass Beads	4"	.026	.052	.078	.104	.130	.156
Lbs./Ln. Ft.	6"	.039	.078	.117	.156	.195	.234
	8"	.052	.104	.156	.208	.260	.312

(Coverage is greatly dependent on the porosity of the surface. As surface porosity increases, the coverage decreases.)

MARK-55.3

Packaging

- Liquid
  946.3ℓ (250 gallon) tote
  189.2ℓ (50 gallon) container

  Combined:
  1892.5ℓ (750 gallons) unit
  378.5ℓ (150 gallon) unit

Clean Up

Cleaning of all equipment and tools is recommended before the gel time of the system expires. **MARK-305** is specially designed for this purpose. A lacquer solvent, xylene, toluene, or methylene chloride may also be used.

Limitations

- **MARK-55.3** System shall not be diluted with any solvent for this will interfere with proper curing or ultimate performance of the system
- The surface shall be fairly dry at the time of application.
- The surface and ambient air temperatures must be at or above 1.67ºC(35ºF) for proper curing of the system
- Part A contains highly reactive TMPTA and other multi-function monomers, which may undergo polymerization and gelling if subjected to prolonged periods of exposure to temperatures exceeding 120°F (48.9°C).

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