

SECTION 551 – NONTOXIC LEAD FREE WATERBORNE PAVEMENT MARKINGS

551.01 DESCRIPTION

This work shall consist of furnishing and applying nontoxic lead free waterborne pavement markings (fast-dry, 60 second no-track) to pavement surfaces as specified in the Contract Documents or as directed by the Engineer. For section 549 referred in this specification please refer to MSHA Standard Specifications for Construction and Material.

551.02 MATERIAL

Nontoxic Lead Free Waterborne Pavement Markings.

551.03 CONSTRUCTION

Not Applicable

551.03.01 QUALITY ASSURANCE / QUALITY CONTROL

Refer to 549.03.01

551.03.02 CLEANING PAVEMENT SURFACES

Refer to 549.03.02

553.03.03 APPLICATION

The location, width, and type of marking , shall be as specified in the Contract Documents or as directed by the Engineer.

Applying pavement markings over longitudinal joints is prohibited; they shall preferably be offset 2 in. from them.

Nontoxic lead free waterborne pavement markings shall conform to the following:

- (a) **Formulation Selection.** The Contractor shall select, purchase, and apply paint from the current approved list of prequalified formulations conforming to these Specifications, which is maintained by the Office of Materials and Technology.

- (b) **Temperature.** The markings shall be applied when the paint, ambient, and surface temperature and relative humidity conform to the manufacturer's recommendations.

- (c) **Glass Beads.** The Contractor shall apply the beads uniformly across the surface of the stripe, at the rate of 6 to 7 lb/ gal of paint. When large type glass beads are specified, they shall be applied uniformly across the surface of the stripe at the rate of 12lb/gal of paint, by special gravity fed bead guns conforming to the manufacturer's recommendations.
- (d) **Thickness.** The paint shall be applied at a wet film thickness of 14 ± 1 mils.
- (e) **Color.** The color of the dry markings shall match Federal Standard 595 (33538 – yellow or 37886 – white). The Contractor shall supply the specified color chips for the Engineer's use to visually determine that the waterborne material matches the specified color.
- (f) **Dry Time.** The applied paint shall dry to a no-track condition within 60 seconds. The no-track time shall not be exceeded when the pavement temperature is between 40 and 120 F and under all humidity conditions, providing the pavement is dry. The no-track time shall be determined by passing over the applied line at approximately 30 degrees with a standard passenger car or pickup truck. When viewed from a distance for 50 ft, the pavement surface shall show no evidence of the paint being picked up and redeposited on the pavement by the vehicle.
- (g) **Retroreflectance.** Refer to 549.03.03 (h). At the time of the paint application, the minimum retroreflectance values shall be 250 and 150 mcd/L/m² for white and yellow.
- (h) **Widths.** Refer to 549.03.03 (e).
- (i) **Alignment.** Refer to 549.03.03 (f).
- (j) **Layout Markings.** Refer to 549.03.03 (i).
- (k) **Empty Containers.** Refer to 549.03.03 (j).

551.03.04 QUALITY CONTROL TEST STIP

Refer to 549.03.04.

551.03.05 APPLICATION EQUIPMENT

The equipment used for application of the paint shall be approved by the Engineer prior to start of work, and shall be capable of applying waterborne traffic paint that has been approved by the Commission. The Contractor shall provide access to the paint application equipment for inspection by the Engineer.

The paint carriage on the left side of the paint truck shall have three paint and bead guns. The paint carriage on the right side of the paint truck shall have two paint and bead guns.

All 10 in. lines shall be applied using two paint and bead guns. Raising the paint carriage in order to paint these lines with one paint and one bead gun is prohibited.

The footage counter used to measure pavement markings shall be calibrated and a notarized certification shall be submitted to the Engineer prior to application.

Testing performed by the Administration will provide the basis for final acceptance.

551.03.06 PROTECTION DURING APPLICATION

Refer to 549.03.05

551.03.07 OBSERVATION PERIOD

Refer to 549.03.06. The Contractor shall not be responsible for pavement markings when the Engineer determines that they have been damaged by plowing. The full Observation Period only applies to those pavement marking materials used as permanent pavement markings for a project.

551.04 MEASUREMENT AND PAYMENT

Measurement and payment for the pertinent Nontoxic Lead Free Waterborne Pavement Marking items will be specified in 549.04. The Contract unit price will be used for the application of the pavement markings and will again be used for the removal and replacement of the pavement markings only when required due to plow damage. The reflectometer will become the property of the Contractor at the completion of the project.