

MATERIALS BULLETIN 21-01

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Section 704-3.02(G) THERMOPLASTIC PAVEMENT MARKINGS

Section 708-2.02(B) WATERBORNE PAVEMENT MARKINGS

Section 708-3.02(D) WATERBORNE PAVEMENT MARKINGS

Purpose

Provide guidance on the handling of glass beads on current and upcoming projects.

Background

Due to the recent nationwide glass bead shortage, the Type 3 Glass beads used in Thermoplastic pavement markings, in accordance with our 704 THERMOPLASTIC PAVEMENT MARKINGS specification, are out of stock.

Oxygen, a critical component needed in the manufacturing of virgin glass beads (Type 3), has been rationed by the federal government and all available oxygen is being directed to hospitals for COVID-19 patients.

A Retroreflectivity maintenance test deck was conducted recently on SR 347, in which the Type 2 beads were used and the Retroreflectance criteria (in millicandelas) was met.

As this supply issue is COVID-19 related, and based on the results of the retroreflectivity test deck, ADOT will allow the AASHTO M247 Type 2 Glass bead gradation in our projects until December 31, 2021 at which time this will be re-assessed.

Process

Section 704-3.02(G) THERMOPLASTIC PAVEMENT MARKINGS

Drop-on beads shall conform to the gradation requirements of AASHTO M 247 for Type 2. Drop-on glass beads shall be mechanically deposited into the thermoplastic material immediately after the thermoplastic marking is applied using a single drop method of Type 2 glass beads at a drop rate of 12 pounds per 100 square feet. Prior to the application of thermoplastic material the contractor shall provide to the department, in writing, the drop-on bead mix package that includes the type of glass beads as described in AASHTO M 247 and the drop rate in pounds per 100 square feet to be used in the single-drop method.

Section 708-2.02(B) WATERBORNE PAVEMENT MARKINGS

The gradation for the drop on beads shall conform to AASHTO M 247 Type 1 and Type 2.

Section 708-3.02(D) WATERBORNE PAVEMENT MARKINGS

Glass reflectorizing beads shall be applied on the wet paint. For Type I paint, 6 to 10 pounds of Type 1 beads shall be post applied per gallon of paint. And, for Type II paint , 10 to 12 pounds of Type 2 beads shall be post applied per gallon of paint.