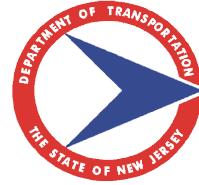


New Jersey Department of Transportation
1035 Parkway Avenue, PO Box 600, Trenton, New Jersey 08625-0600



Baseline Document Change Announcement

ANNOUNCEMENT: BDC24S-21

DATE: January 16, 2025

SUBJECT: Applying Transverse Rumble Markings
- **Revision to Subpart 610.03.02 of the 2019 Standard Specifications for Road and Bridge Construction.**

REFERENCE: Transverse Rumble Markings
- **Addition of CD-610-15 to the 2016 Standard Construction Details - Roadway**

BDC24D-03 dated 1/16/2025

The entire Subpart 610.03.02 of the 2019 Standard Specifications for Road and Bridge Construction has been revised to include the specifications for the installation of transverse rumble markings and to accompany the addition of Sheet CD-610-15 to the 2016 Standard Construction Details – Roadway. The contents in this Subpart have been reordered, and all hyperlinks will be updated accordingly.

The revision must be made in conjunction with the reference BDC announcement.

The following revisions have been incorporated into the 2019 Standard Specifications via the 2019 Standard Inputs, SI2019:

610.03.02 Traffic Markings Lines, Traffic Markings Symbols, and Traffic Markings Route Symbols

THE SUBPART IS CHANGED TO:

- A. Marking Plan.** At least 20 days before beginning the work, submit to the RE for approval a marking plan that includes:
1. Schedule of operations for applying traffic markings.
 2. Number and type of equipment.
 3. Manufacturer's recommendations for use of the materials, including mixing ratios and application temperatures.
 4. Details on the means and methods for surface preparation.
 5. Details on the means and methods for premarking.
- B. Surface Preparation.** Immediately before marking the pavement surface, clean the surface of dirt, oil, grease, and foreign material, including curing compound on new concrete. Clean the surface 2 inches beyond the perimeter of the marking to be placed.
- C. Applying Traffic Markings.** Place preformed thermoplastic or hot extruded thermoplastic traffic markings on thoroughly dry surfaces and during dry weather conditions. Apply using equipment and procedures that produce

markings of the specified color, width, and thickness with well-defined edges, uniform retroreflectivity, and proper bonding to the pavement. Apply the thermoplastic material as follows:

1. **Preformed Thermoplastic.** Melt the preformed thermoplastic tape to bond the traffic markings permanently in position according to the manufacturer's recommendations.

Meet the minimum initial retroreflectance value, as specified in 610.03.01.D for thermoplastic tape, by applying additional glass beads to the hot-wet material in a uniform pattern as necessary.

2. **Extruded Thermoplastic.** Uniformly heat the thermoplastic material. When the ambient and surface temperatures are at least 50 °F, apply the melted material at a temperature of between 400 and 425 °F. Extrude the thermoplastic traffic markings on the HMA or concrete pavement ensuring a thickness of 90 ± 1 mils.

Immediately after, or in conjunction with the thermoplastic extrusion, uniformly apply glass beads to the wet material at a minimum rate of 10 pounds per 100 square feet of markings. Apply glass beads by mechanical means only.

D. Applying Transverse Rumble Markings. Install transverse rumble markings as follows:

1. Ensure the HMA or concrete pavement is clean and dry before applying thermoplastic materials as specified in 610.03.02.B.
2. Heat thermoplastic material as specified in 610.03.02.C.2.
3. Apply one layer of thermoplastic material on the HMA or concrete pavement surface at a thickness of 125 ± 1 mils. Then while the material is hot, apply a second layer of thermoplastic material at 125 ± 1 mils.
4. Uniformly apply glass beads as specified in 610.03.02.C.2.
5. The Contractor will ensure that there is no separation between the first and second layer of thermoplastic material before the RE's final acceptance of transverse rumble markings.
6. The Contractor will ensure that the appropriate thickness of 125 ± 1 mils per layer of thermoplastic material is installed, any markings found by the RE to be thinner than 125 ± 1 mils will be removed and reinstalled by the Contractor at no additional cost to the Department.
7. The Department will make payment for transverse rumble markings by square feet under TRAFFIC MARKINGS SYMBOLS as specified in 610.04.
8. Thermoplastic material for transverse rumble markings shall be white in color.

E. Performance. Ensure that the traffic markings show no fading, lifting, cracking, chipping for any reason including but not limited to traffic wear, maintenance activities including snow plowing, until Acceptance. Ensure that 60 days after application, traffic markings have a minimum retroreflectance value of:

375 millicandelas per square meter per lux for white traffic markings

250 millicandelas per square meter per lux for yellow traffic markings

F. Defective work. Replace thermoplastic traffic markings that are determined by the RE before Acceptance to be defective or that are damaged during construction. Remove defective markings as specified in 610.03.08.

Replace the entire area of thermoplastic traffic markings determined to be less than the required thickness, to have incorrect color or width, to have failed to bond to the pavement, or to have chipped or cracked. The minimum replacement area is an individual word or symbol, or for longitudinal lines the entire length from where the deficiency first occurs to where it no longer exists.

The RE will determine initial retroreflectance as follows:

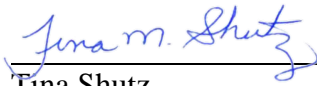
Provide the RE with a Reflectometer that meets a 30 meter geometry as specified in ASTM E 1710, capable of measuring wet and dry conditions as specified in ASTM E 2176 and ASTM E 2177, and that has been certified by the manufacturer as being calibrated within the last 2 years. The RE will test the retroreflectance of traffic markings with the provided reflectometer according to the manufacturer's recommendations. Replace traffic markings that do not meet the retroreflectance values indicated in 610.03.02.E.

G. Opening to Traffic. Complete each application of thermoplastic traffic markings and allow to thoroughly dry before opening to traffic. The RE will determine when the traveled way can be opened to traffic.

Implementation Code R (ROUTINE)


Changes must be implemented in all applicable Department projects scheduled for Final Design Submission at least one month after the date of the BDC announcement. This will allow designers to make necessary plan, specifications, and estimate/proposal changes without requiring the need for addenda or postponement of advertisement or receipt of bids.

Recommended By:



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Capital Program Management
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TS: MS: NJB