

TIP #: B-3453
DATE: 1/04/05
REVISED:
Updated 12/30/02

PROJECT SPECIAL PROVISIONS
POLYUREA PAVEMENT MARKING MATERIAL WITH
STANDARD GLASS BEADS

Section 1205-1 DESCRIPTION:

This special provision covers machine applied Polyurea pavement marking material with both incorporated glass beads and drop-on glass beads. All remaining Articles in Section 1205 shall be as described in the 2002 Standard Specification for Roads and Structures with the exceptions below.

Section 1205-2 Materials

(A) General

Replace Article (A) with the following:

Section 1087-Articles 1, 3, 5 & 6 (General, Color, Packaging for Shipment, and Storage Life) shall be as described in the 2002 Standard Specifications for Roads and Structures. The manufacturer may recommend any remaining information necessary for the placement of Polyurea pavement markings.

(B) Material Qualification

Replace Article (B) with the following:

Use only Polyurea pavement markings that have been pre-approved by the Traffic Control Section prior to application. Use both incorporated glass beads and drop-on glass beads according to the manufacturer's recommendations in order to meet the retroreflectivity requirements as stated in Section 1205-3(G)(8) as measured by a LTL 2000, LTL-X or Department approved 30m mobile retroreflectometer.

Furnish a Type 3 Material Certification and Type 4 Material Certification in accordance with Article 106-3 as described in the 2002 Standard Specifications for Roads and Structures.

For more information, contact the Traffic Control Section at 919 250-4159.

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Section 1205-3 Construction Methods

Section 1205-3(B) (1) General for all Application Equipment: Add the following sentence after the last paragraph:

Do not use handliners or any other non-truck mounted pavement marking machine to install Polyurea pavement markings on long-line applications.

Add the following Section immediately following Section 1205-3(G)(8)

Section 1205-3 (G) (9) Polyurea Application:

Produce Polyurea pavement marking lines that have a minimum dry thickness of 20 mils (0.50mm) when placed on concrete and asphalt pavements.

Using the Polyurea application equipment, apply the pavement materials simultaneously. Apply the Polyurea resin, mixed at the proper ratio according to the manufacturer's recommendations, to the pavement surfaces within the proper application temperatures as determined by the material manufacturer. Inject reflective glass beads into the molten (liquid) Polyurea pavement markings.

Apply glass beads according to manufacturer's recommendations. At the time of installation, provide in-place marking with the minimum reflectance values shown below, as obtained with a LTL 2000, LTL-X or Department approved 30m mobile retroreflectometer. Maintain the retroreflectance values shown below for a minimum of 30 days from the time of placement of marking material.

WHITE: 375 mcd/lux/m²
YELLOW: 250 mcd/lux/m²

Produce marking, which upon cooling, is uniformly reflectorized and has the ability to resist deformation caused by traffic throughout its entire length.

The manufacturer of the Polyurea pavement marking material shall certify the Contractor to place the material. Provide at least one member of each crew that completed this training. Furnish the Engineer written confirmation of the training from the material manufacturer prior to the beginning of work. The manufacturer's technical representative shall be onsite during the entire installation of product.

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Provide a manufacturer's technical representative that is knowledgeable and familiar with the Contractors application equipment prior to the installation of the Polyurea pavement markings.

Section 1205-3(H)(1) Observation Period for Polyurea Pavement Markings:

Replace the first paragraph with the following:

Thermoplastic, epoxy, and polyurea pavement markings are subject to a 180 day observation period.

Add the following just before the last paragraph:

Provide polyurea pavement marking materials that maintain minimum retroreflectance values throughout the 180 day observation period as follows:

WHITE: 325 mcd/lux/m2
YELLOW: 200 mcd/lux/m2

These measurements will be taken by the Department within 30 days prior to the end of the Observation Period. The reflectance values shall be taken with an LTL 2000, LTL-X or Department approved 30m mobile retroreflectometer.

Section 1205-3(I) Removal of Pavement Markings:

Add the following just before the last paragraph:

Do not apply Polyurea pavement marking over existing pavement marking materials having less adherence than Polyurea. Remove existing lines according to the manufacturer's recommendations.

Measurement and Payment:

Measurement and payment shall be in accordance with Section 1205 of the North Carolina Standard Specifications for Roads and Structures.