

2209 - HIGH DURABILITY PAVEMENT MARKING TAPE

SECTION 2209

HIGH DURABILITY PAVEMENT MARKING TAPE

2209.1 DESCRIPTION

This specification covers white or yellow preformed plastic pavement markings designed to be used in severe wear conditions such as repeated shear actions from crossover or encroachment traffic and turning, stopping or starting traffic. This includes material for use on both portland cement concrete and asphalt surfaces.

2209.2 REQUIREMENTS

Provide preformed pavement markings that comply with ASTM D 4505 with the following exceptions and additions:

a. The material must have a strong topcoat with glass beads distributed to provide immediate and continuing retroreflection. Bond ceramic particles to the top layer to provide a skid resistant surface.

b. Delete all references to application temperatures.

c. **Tensile Strength.** The material must have a minimum tensile strength of 500 psi when measured in the direction of the roll.

d. **Adhesion.** 8 lbs per 1.0 inch of width, minimum.

e. **Thickness.** 0.05 inch, minimum.

f. **Retroreflectivity.** Provide material that meets the following minimum retroreflectivity requirements using an acceptable 30-meter retroreflectometer:

TABLE 2209-1: HIGH DURABILITY TAPE RETROREFLECTIVITY REQUIREMENTS	
Color	millicandelas/sq m/lux (min.)
White	225
Yellow	175

2209.3 TEST METHODS

KTMR-9, Field Evaluation of Pavement Marking Materials.

ASTM D 638 with the following exception:

- Test a 1 by 6 inch sample at a temperature between 70 and 80°F using a jaw speed of 10 - 12 inches per minute.

ASTM D 4505.

2209.4 PREQUALIFICATION

Submit at least 100 linear feet of each color, and a complete set of installation recommendations and instructions to Engineer of Tests, Materials and Research Center, 2300 Van Buren, Topeka, KS 66611.

Provide material that complies with **subsection 2209.2**. In addition, the following Field Evaluation will be conducted:

- **Field Evaluation.** The material will be subjected to traffic conditions on both portland cement and asphalt surfaces for 6 months during the period of July through February. During this time, the material cannot pick up and retain road grime that causes more than a slight graying of the surface. A strong contrast must remain between the striping material and the pavement surface. At the end of the evaluation period, the material must be intact with no evidence of lifting, curling, breaking or

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displacement. After 6 months, the material must maintain minimum retroreflectivity values of 150 millicandelas/sq m/lux for white and 100 millicandelas/sq m/lux for yellow.

Field evaluation may be waived if a complete field test has been performed on the identical product by another state department of transportation or AASHTO test facility that includes both hot and cold weather conditions, and was a minimum of 6 months in duration. Forward an official copy of the test report along with evidence that the product referenced is identical to that submitted for prequalification to the Engineer of Tests for evaluation.

The material will be evaluated for compliance with this specification, and the manufacturer will be notified of the results. The Bureau of Materials and Research will maintain a list of qualified materials. Products will remain on the prequalified list as long as the Field Evaluations and Field Performance are satisfactory. Report any changes in formulation to MRC for review and evaluation to determine if requalification is necessary.

2209.5 BASIS OF ACCEPTANCE

a. Long Line Markings.

- (1) Prequalification as required by **subsection 2209.4** above.
- (2) Satisfactory results of Verification Testing. Except for symbols, the Engineer will sample each lot or batch. The Engineer will cut perpendicular to the width from the end of the roll.

Pavement Marking width	Sample Size
4, 6 & 8 inch	36 inch
12 & 24 inch	24 inch

- (3) Visual observation of performance on the project.

b. Preformed Symbols.

- (1) Prequalification as required by **subsection 2209.4** above.
- (2) Receipt and approval of a Type C certification as specified in **DIVISION 2600**, which also includes all lot numbers of material used to fabricate the symbols.
- (3) Visual observation of performance on the project.