

**KANSAS DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION TO THE
STANDARD SPECIFICATIONS, EDITION 2007**

SECTION 807

PAINTED PAVEMENT MARKING

Page 800-23. delete subsection 807.3a. and replace with the following:

a. Equipment. Use self propelled or truck-mounted equipment designed for the purpose of applying painted pavement markings of the type, width and thickness required. Hand application or towing of the equipment will be allowed for smaller areas as approved by the Engineer. Equip the machine with an adjustable guide-on to obtain proper placement of the line.

Page 800-23, subsection 807.3e., in the third paragraph replace "10 pounds" with "12 pounds".

Page 800-24, add the following bullet and TABLE to subsection 807.3f.:

- Do not meet **TABLE 807-1.**

TABLE 807-1: PAINTED PAVEMENT MARKING MINIMUM RETROREFLECTIVITY REQUIREMENTS		
TYPE OF MATERIAL	COLOR	millicandelas/sq m/lux* (minimum) (Initial)
Waterborne Traffic Paint	White	250
	Yellow	175

NOTE: Provide an acceptable 100 foot retroreflectometer to use on the project which will remain the property of the Contractor. In the presence of the Engineer, measure the retroreflectivity between 12 hours and 7 days after the application. Take a minimum of 10 readings per color line evenly spaced on a 1,000 foot roadway section every 1 mile. The Engineer will average all of the readings for each color line within the 1,000 foot section to determine the retroreflectivity. If the distance is less than 1,000 foot, the Engineer will determine the testing frequency.

Page 2200-32, delete SECTION 2215 and replace with the following:

SECTION 2215

PAVEMENT MARKING PAINT

2215.1 DESCRIPTION

This specification covers water-borne pavement marking paint and glass beads suitable for use as retroreflective pavement markings on portland cement concrete or asphalt pavement.

2215.2 REQUIREMENTS

a. Paint. Use white or yellow paint that is specifically manufactured for use as pavement markings. Formulate the paint to consist of acrylic resin, lead free pigments and water as the solvent. The paint must comply with volatile organic compound (VOC) requirements, be lead and other toxic heavy metal free, and exhibit the following qualities:

(1) Formulation:

Yellow paint- The pigment of the Yellow paint shall consist of the following for each 100 gallons of paint:

- A. 30 lbs. of approved Hansa Yellow
- B. 17 lbs. of Rutile Titanium Dioxide
- C. Other such extender pigments as necessary to produce a close match to the yellow color requirement.

White and yellow paint shall be composed of 100% acrylic polymer, which shall be Rohm and Haas HD-21 acrylic resin or Dow Chemical's DT400.

(2) Dry-Opacity: A contrast ratio of not less than 0.96 when the paint is applied with a 0.012 inch film applicator.

(3) Daylight Reflectance: Daylight Reflectance of the white paint not less than 80% relative to magnesium oxide.

(4) Color: Yellow color must meet the following minimum chromaticity coordinates:

COLOR	1		2		3		4	
	X	Y	X	Y	X	Y	X	Y
Yellow	0.475	0.450	0.490	0.433	0.520	0.450	0.495	0.475

(5) Bead Embedment: At least 90% of the glass beads must be embedded between 50 and 70%.

(6) Dry to No Pick-Up Time: Maximum 5 minutes when tested according to KT-MR1

b. Glass Beads for Pavement Marking Paint (Double Drop System).

(1) For the first drop, furnish large beads, which are compatible with the paint being used and comply with AASHTO M247 except with the following gradation (FP-96, Type 3):

Sieve Size	Percent Passing
No. 12	100
No. 14	95 – 100
No. 16	80 – 95
No.18	10 – 40
No. 20	0 – 5
No. 25	0 – 2

(2) For the second drop, furnish beads which are compatible with the paint being used, and which comply with the requirements of AASHTO M247 Type I.

(3) Both types of beads are to be coated with a moisture resistant coating and an adhesion promoting coating which is compatible with the paint being used.

(4) A blended bead which contains equal portions of both bead types may be substituted if double drop application equipment is not available.

Sieve Size	Percent Passing
No. 12	100
No. 14	98 – 100
No. 16	88 – 97
No. 18	48 – 70
No. 20	28 – 50
No. 50	5 – 25
No. 80	0 – 5

c. Verification Sampling and Testing.

(1) The Engineer will take 2 one-quart samples of each color of paint used on each project. Forward the sample to MRC for verification testing.

(2) The Engineer will take 2 one-quart samples of each type of glass beads used on each project. Forward the sample to the Materials and Research Center for verification testing

2215.3 TEST METHODS

a. Paint.

(1) Dry Opacity. ASTM D 2805.

(2) Daylight Reflectance. ASTM E 1347.

(3) Bead Embedment. Apply paint to a Leneta plain white paper chart at a wet film thickness of 0.025 inch followed immediately by an application of glass beads (FP-96, Type 3) dropped onto the surface of the paint. After drying for at least 24 hours observe the amount of bead embedment with a 30-power microscope.

(4) Dry to No Pick-Up Time. KT-MR12, “Dry to No Pick-Up Time for Water-Borne Traffic Paint.”

b. Glass Beads. AASHTO M 247, plus

(1) Moisture Resistance. KTMR-8, “Moisture Resistance of Glass Beads for Traffic Markings.”

2215.4 PREQUALIFICATION

None Required.

2215.5 BASIS OF ACCEPTANCE

Acceptance of pavement marking paint and glass beads will be made on the basis of Type D certifications as specified in **DIVISION 2600**, and visual inspection of performance and consistency on the job site.