

2205 - FLEXIBLE DELINEATOR POSTS AND ANCHORING DEVICES

SECTION 2205

FLEXIBLE DELINEATOR POSTS AND ANCHORING DEVICES

2205.1 DESCRIPTION

This specification covers flexible delineator posts and anchoring devices.

2205.2 REQUIREMENTS

a. General.

(1) Provide delineator posts consisting of a flexible, durable, UV resistant and non-discoloring material. Provide posts to which retroreflective sheeting can be applied, and are capable of recovering from 5 cold weather impacts between 27 and 37°F and 5 hot weather impacts between 82 and 90°F. Upon installation, the delineator must be resistant to overturning, twisting, or displacement from wind and vehicle forces. For 2-piece systems, the post must be compatible with an anchor that holds the post in place by a locking mechanism, or with a bolting arrangement.

(2) When shown in the Contract Documents, apply High Intensity retroreflective sheeting to the flattened area. Apply white or yellow retroreflective sheeting to 1 or 2 sides as stated in the Contract Documents. Apply retroreflective sheeting to within 2.0 inches of the top of the post. The total length and color of the post are shown in the Contract Documents.

(3) Delineators are required to meet the crashworthy criteria for category I devices contained in the testing and acceptance guidelines of the National Cooperative Highway Research Program (NCHRP) Report 350.

b. Types of Posts.

(1) Tubular. Provide posts that are 2 – 4 inches in diameter and permanently closed or capped to prevent moisture or debris from entering. The upper end, which is flattened or oval shaped, is at least 12 inches in length, and provides a flat surface of at least 3.0 inches wide.

(2) Flat. Provide posts with a surface width of at least 3.0 inches.

(3) Curved. Provide posts with a minimum width of 3.0 inches.

(4) Round. Provide posts that are round from top to bottom with a minimum diameter of 3.0 inches, and are permanently closed or capped to prevent moisture or debris from entering.

c. Types of Anchors.

There are 3 types of anchoring systems.

(1) Driveable Anchor.

(2) Embedment Anchor.

(3) Surface Mount Anchor.

d. Impact Resistance. The delineator must remain intact and securely anchored, and return to its original vertical orientation within an angle of ± 15 degree after a series of 10 (5 cold weather and 5 hot weather) impacts by a typical passenger car or pickup traveling at 55 miles per hour.

2205.3 TEST METHODS

a. Impact Resistance Test. Test flexible delineators for impact resistance as prescribed by the AASHTO National Transportation Product Evaluation Program (NTPEP) test procedures for flexible delineator posts and plastic barrels.

The manufacturer must submit Impact Resistance data for tests that have been performed on the identical product by the AASHTO NTPEP test location that includes both hot and cold weather conditions. 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.

b. Crashworthy Test. Test delineators as prescribed by the NCHRP Report 350 for category I devices. Federal Highway Administration (FHWA) guidance indicates that category I devices may be accepted based on a

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self-certification by the manufacturer. This certification may be a one-page affidavit signed by the manufacturer, with documentation supporting the certification (crash tests and/or engineering analysis) kept on file by the certifying organization. Forward an official copy of the certification with evidence that the product referenced is identical to that submitted for prequalification, to the Engineer of Tests for evaluation.

2205.4 PREQUALIFICATION

The flexible delineator post, complete with appropriate anchor, will be prequalified as a system or unit by the KDOT. Manufacturers interested in prequalifying items under this specification must submit 2 complete units (posts with appropriate anchors), the Impact Resistance test data, and the Crashworthy Certification to the Engineer of Tests, Materials and Research Center, 2300 Van Buren, Topeka, KS 66611. The sample will be tested for compliance with all requirements of this specification and the producer will be notified in writing of the test results. A list of qualified materials will be maintained by the Bureau of Materials and Research.

2205.5 BASIS OF ACCEPTANCE

Prequalification as required by **subsection 2205.4**.

Receipt and approval of a Type C certification in accordance with **DIVISION 2600**.