

OBJECT MARKERS AND DELINEATORS – EXPRESS LANE/MANAGED LANE MARKERS.**(REV 04-07-20)**

ARTICLE 993-2 is expanded by the following new Subarticle:

993-2.7 Express Lane/Managed Lane Markers:

993-2.7.1 Dimensions: The marker shall have a minimum diameter of 3 inches. The height of the marker above the pavement surface shall be 36 inches. At specific locations shown in the Plans, the height of the marker above the pavement surface shall be 24 inches.

993-2.7.2 Post Base: Markers shall be installed as tested and in accordance with the manufacturer's recommendations.

993-2.7.3 Color: The color of the posts shall be as specified in the Plans. For white posts, the yellowness index shall not exceed 12 when tested in accordance with ASTM D1925 or ASTM E313. The daylight 45-degree, 0-degree luminous directional reflectance shall be a minimum of 70 when tested in accordance with ASTM E1347 or ASTM E1164.

993-2.7.4 Retroreflective Sheeting: The retroreflective sheeting shall be white abrasion resistant Type V or Type IV with supplemental S.2 ASTM 4956 and meet the requirements of Section 994. The total minimum projected area shall be 18 square inches facing the direction of traffic. The top of sheeting shall be 1-1/2 inches plus or minus 1/2 inch below the top of the post.

993-2.7.5 Impact Performance: To resist an impact of a test vehicle, the post shall restore to within 15 degrees of vertical in any direction, and not crack or tear more than 50% of its cross section. All impacts are to be performed at 70 mph.

For acceptance purposes, the markers must be capable of resisting an average of 45 bumper impacts per sample. In addition, the post must be capable resisting an average of 150 tire impacts per sample.

Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

For product approval requests submitted after September 5, 2019, impact and laboratory testing shall be performed at a National Transportation Product Evaluation Program (NTPEP) testing facility and shall use the NTPEP Project Workplan, Evaluation of Temporary Traffic Control Devices: Flexible Delineators, for the category of High Speed Applications and hot weather testing.

For product approval requests submitted before September 5, 2019, testing must be performed by a facility that is listed on the Laboratories Accredited to Crash Test Roadside Safety Hardware (http://www.tf13.org/Subcommittee_7_Test_Facilities.php) at the time of testing.