656.2.3 Flat Sheet Aluminum Delineators

1 Use 0.100-inch flat sheet aluminum measuring 3½ inches x 3½ inches with white or yellow Type IX reflective sheeting to construct flat sheet aluminum delineators with a 5/16 inch attachment hole in the center of the aluminum.

656.2.4 Flexible Post Delineators

656.2.4.1 Prequalification and Certification

1 Provide flexible post delineators that have been tested and approved by the National Transportation Product Evaluation Program (NTPEP). Use post delineators made by manufacturers listed on the current edition of SCDOT Qualified Product List 50.

2 Provide the RCE with a certification from an officer of the manufacturing company that certifies that each shipment of the delineator posts meets the requirements of these specifications.

656.2.4.2 Materials

1 Provide a post made of durable material that is resistant to impact, ultraviolet light, ozone, common hydrocarbon solvents, motor fuels and lubricants, and herbicide formulations. Provide posts that are self-erecting after a vehicle impact. Ensure that posts are free of surface porosity and other defects that could affect appearance and serviceability. Cap the top of tubular posts to prevent the inclusion of water.

2 Provide posts in white, yellow, orange, or other special color as required. Ensure the post is wide enough to accommodate a minimum of 3-inch wide reflective sheeting on one or both sides without overhanging the edges. Use Type IX reflective sheeting in either yellow or white.

3 Provide posts lengths as shown on the Plans and SCDOT Standard Drawings.

656.2.4.3 Post Types

1 Provide either a surface mounted type or a driven or embedded type flexible delineator post as specified.

2 For surface mounted type post, use a two-piece system where the post fits into a surface mounted anchor with a locking mechanism. Secure the anchor with a bituminous or epoxy adhesive recommended by the manufacturer.

3 Use one of the following types of driven or embedded posts:
   • Chisel-pointed, drivable, reusable metal anchor into which the post is inserted and held in place by a locking mechanism.
   • Metal anchor designed for embedment in either Portland cement or asphalt concrete. Secure the anchor in the concrete with asphalt or epoxy adhesive recommended by the post manufacturer. Fit the post into the anchor and secure by a locking mechanism.
• U-section steel post to which the post is securely attached and driven by mechanical means.
• Direct driven post without a separate anchor.

Fabricate all metal anchors from galvanized steel, providing suitable corrosion resistance and a stable anchor that cannot be dislodged when the post is subjected to multiple vehicular impacts.

656.2.5 Flexible Barrier or Parapet Mounted Delineators

Provide delineators consisting of a T-shaped body that is co-extruded and fuses two materials, one for support and the other for flexibility. Ensure that the retroreflective surface is 4 inches x 4 inches and constructed of Type IX retroreflective sheeting. Bond the delineator to the barrier with an adhesive 3 inches from the top at 200-foot spacing. Provide a Dura-Flex Model Flex 2020 or equal delineator.

656.2.6 Reflective Materials

Provide white or yellow Type IX reflective sheeting material to reflectorize the delineators that conforms to the requirements of Subsection 651.2.3.

656.2.7 Certification

656.2.7.1 General

Ensure the manufacturer of prismatic plastic delineators conducts quality control tests that meet the requirements of these specifications.

Provide the OMR with 4 copies of a notarized certified report from the manufacturer showing the results of their quality control tests and a certification stating that the delineators furnished meet all the requirements of the Department's specifications for signing.

656.2.7.2 Optical Requirements

Use the following definitions in testing optical performance:
• Entrance (Incidence) Angle – The angle between the incident beam and a line perpendicular to the face of the reflective material.
• Observation (Divergence) Angle – The angle between the observer’s line of sight and the incident beam.
• Specific Intensity – The candlepower returned at the chosen observation angle by a reflector for each foot-candle of illumination at the reflector.

656.2.7.3 Specific Intensity

Ensure that the specific intensity of sample reflex reflectors from each lot of reflectors used in delineators or markers meets or exceeds the minimum values in the following table.