

**ITEM 619.1706--25 - LINEAR DELINEATION SYSTEM (L.D.S.)**

**1. DESCRIPTION:**

- 1.01 Under this item the Contractor shall furnish and install a linear delineation system on temporary concrete barrier. The system shall consist of segmented panels adhered to the barrier.

**2. MATERIALS:**

**2.01 General Requirements:**

- A. Each panel shall be 34 inches long by 6 inches wide.
- B. Each panel shall be constructed of retroreflective material permanently bonded to an aluminum substrate. The panels shall have a repeating raised lateral ridge approximately every 2 ½ inches, 1/3 of an inch in height, with a 45° profile.
- C. The panels shall adhere to concrete barriers systems.

**2.02 Color:**

- A. Conformance to the daytime color requirements shall be determined from measurement of the retroreflective sheeting applied to aluminum test panels. Daytime color shall be measured instrumentally using a spectrophotometer employing annular 45/0 (or equivalent 0/45) illuminating and viewing geometry.
- B. Color measurements shall be made in accordance with ASTM E1164 for white and ASTM E2153 for fluorescent yellow. Chromaticity coordinates shall be calculated for CIE Illuminant D65 and the CIE 1931 (2o) Standard Colorimetric Observer in accordance with ASTM E308 for white and ASTM E2152 for fluorescent yellow.

**C. Chromaticity Limits for White**

	x	y	x	y	x	y	x	y	Limit Y (%)	
									Min.	Max.
White	0.303	0.287	0.368	0.353	0.340	0.380	0.274	0.316	40	--

**D. Chromaticity Limits for Fluorescent Yellow**

	x	y	x	y	x	y	x	y	Total Luminance Factor Y <sub>T</sub> (%)
									Min.
Fluor. Yellow	0.521	0.424	0.557	0.442	0.479	0.520	0.454	0.491	40

The minimum fluorescence luminance factor (Y<sub>F</sub>) values of the retroreflective sheeting conform to:

<u>Color</u>	<u>Y<sub>F</sub> (%) min.</u>
Fluor. Yellow	25

- 2.03 Adhesive – 3M Windo-Weld Super Fast Urethane (#08609) or approved equal.

- 2.04 Section 715-16 – Stainless Steel Connecting Products.

**ITEM 619.1706--25 - LINEAR DELINEATION SYSTEM (L.D.S.)**

**2. MATERIALS:** (cont'd)

2.05 Section 701-07 – Anchoring Materials Chemically Curing.

**3. CONSTRUCTION DETAILS:**

3.01 Linear Delineation System (L.D.S.) panels shall be applied to all temporary concrete barrier units that are installed tangent to the traveled way.

3.02 Panels shall be adhered 6 inches below the top of the temporary concrete barrier.

3.02 Panels shall be spaced 86 inches apart.

3.03 Gaps between panels may be modified AOB for temporary concrete barrier units that are not 20 feet in length.

3.04 White panels shall be used to the right of the traveled way. Fluorescent yellow panels shall be used to the left of the traveled way.

3.05 Temporary concrete barrier installed in narrow medians shall have yellow panels installed on both sides of the barrier. In all installations an adhesive caulking system such as 3M Windo-Weld Super Fast Urethane, or approved equal, shall be utilized in supplementing mechanical anchorage. Mechanical Anchorage shall be done in accordance with Section 586-3.02 and 586-3.04.

3.06 Materials shall be installed on temporary concrete barrier in accordance with the manufacturer's recommendations.

3.07 The Contractor shall be responsible for maintenance of the Linear Delineation System. Any materials that fail to provide both daytime and nighttime delineation shall be replaced immediately by the Contractor. The replacement of unsatisfactory material shall be as directed by and to the satisfaction of the Engineer and shall be at no cost to the Authority.

3.08 Temporary concrete barrier installed at the option of the Contractor, or required solely by a delay in the Contractor's operations, shall include a Linear Delineation System.

**4. METHOD OF MEASUREMENT:**

4.01 Linear Delineation System will be measured as the number of linear feet satisfactorily installed on temporary concrete barrier.

4.02 No measurement will be made for the number of linear feet of gaps between delineation panels.

**5. BASIS OF PAYMENT:**

5.01 The unit price shall include the cost of furnishing all labor, materials, and equipment necessary to satisfactorily complete the work.

5.02 Payment will be made upon satisfactory installation of temporary concrete barrier with Linear Delineation System attached.

5.03 Payment will be made for the length of Linear Delineation installed.

**ITEM 619.1706--25 - LINEAR DELINEATION SYSTEM (L.D.S.)**

**5. BASIS OF PAYMENT:** (cont'd)

- 5.04 No payment will be made for a Linear Delineation System installed on temporary concrete barrier that is installed at the option of the Contractor, or required solely by a delay in the Contractor's operations.
- 5.05 Payment for this item will only be allowed once in this contract for each temporary concrete barrier unit. No payment will be made for a subsequent movement of the barrier unit unless a different color is required.