

**OKLAHOMA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISIONS
FOR
EXTRUDED THERMOPLASTIC TRAFFIC STRIPE (mil thickness \geq 0.090)**

These Special Provisions revise, amend, and where in conflict, supersede applicable sections of the 1999 Standard Specifications for Highway Construction, English and Metric. Units of measurement are provided in the subsections in both English and Metric equivalents. The units for this project shall be those specified in the project plans.

EXTRUDED THERMOPLASTIC TRAFFIC STRIPE (mil thickness \geq 0.090)

855.01. DESCRIPTION.

Furnish and place reflectorized pavement markings of the types, colors, shapes, sizes, widths, and thickness on asphalt concrete and portland cement surfaces as directed. Exception: Black pavement markings on portland cement concrete surfaces shall be matte and non-retroreflective.

855.02. MATERIALS.

Materials shall meet the requirements of the section 711, except that Yellow Thermoplastic shall have a minimum of 4.0% yellow pigment with a lead-chromate content of 60.0% minimum.

Initial Yellow Color Box Standard

1		2		3		4	
x	y	x	y	x	y	x	y
0.5125	0.4866	0.4865	0.4647	0.5000	0.4416	0.5348	0.4646

855.04. CONSTRUCTION METHODS.

- (a) **Application.** Apply *Large* glass beads at the rate of 10 lb/100 ft² (minimum), prior to the application of *Standard* beads. Apply *Standard* glass beads at the rate of 10 lb/100 ft² (minimum). All transverse markings and markings applied by hand machines shall be single drop with *Large* glass beads at a rate of 10 lb/100 ft² (minimum).
- (b) **Performance Period.** All markings and replacement markings shall meet all requirements of this specification for a minimum of 30 calendar days. Remove and replace all pavement markings that fail to meet these specification requirements. Removal and replacement is at the contractor's expense. Replace all failing markings within 30 days of notification.
- (c) **Retroreflectivity.** Measurements shall be contractor supplied. Cost to be included in bid price of traffic stripe. Measurements shall be taken using a portable reflectometer which uses 30-meter geometry meeting the requirements described in ASTM E 1710, and in accordance with the instrument manufacturer's instructions. All reflectometers used for payment purposes shall be calibrated annually by the manufacture. Manufacturer's certification of annual calibration shall remain with instrument.
 1. **Minimum Retroreflectivity.** Longitudinal markings placed on asphalt concrete and portland cement concrete traffic surfaces shall meet the following minimum values:

White		Yellow	
mcd/m ² /lx	Bid Price Adjustment	mcd/m ² /lx	Bid Price Adjustment
400 Plus	100%	225 Plus	100%
350-399	75%	200-224	75%
200-349	50%	150-199	50%
< 200	Remove And Replace	<150	Remove And Replace

2. **Measurement.**

- Shall be taken within 10 calendar days of placement, provided all loose beads are removed.
- Measurements which fall below minimum retroreflectivity values shall require additional measurements to determine extent of failure.
- Take all measurements in the direction of travel of traffic.
- One measurement shall represent 2500 LF of single color longitudinal markings.
- Minimum spacing between measurements shall be 1000 LF.
- *Solid Line:* One measurement shall be the average of 5 readings taken at three-foot intervals along a randomly selected 15 LF section of longitudinal line.
- *Skip Line:* Take two readings per skip line on three adjacent skips and averaged to represent one measurement. Take no readings within the first or last 1.0 ft of any skip line marking. Yellow skip lines may be measured in either direction of travel.
- *Measurements will not be required under the following conditions:*
 - Transverse Markings: Stop-bars, x-walks, gores, words, symbols, etc. shall not be measured for retroreflectivity. Longitudinal striping installed using hand line machines also shall not be measured for retroreflectivity.
 - County Roads or City Streets unless otherwise noted.
 - Projects less than one mile in length.
- *Optional Measurement Method:* An approved mobile retroreflectometer system may be used as an alternate measurement method. Obtain written approval from the Engineer prior to placing any striping material.

3. **Acceptance:** Submit all final retroreflectivity measurements to the Engineer for acceptance. The Contractor will be notified of measurements failing to meet minimum values, and shall be required to re-stripe failing sections at no cost to the Department. Markings damaged by snow and ice control/removal that reduces reflectivity below minimum value requirements will be replaced by the Department.

The Department shall routinely take readings for quality assurance purposes. Should Department results and Contractor results differ by more than ten percent, the Department's results will be used for acceptance purposes. The Department's results will be taken with a Delta Light & Optics, Model LTL X portable reflectometer.

Quantities of stripe less than 2500 LF may be accepted by the Engineer upon visual inspection.

855.05. METHOD OF MEASUREMENT.

Final retroreflectivity measurements submitted for payment shall include the date and time of calibration, location (GPS coordinates), line color, and date of each measurement. Any routes not measured will be considered a failure.

855.06. BASIS OF PAYMENT.

Accepted traffic stripe (plastic), measured as provided above, will be paid at the contract unit price as follows:

- (A) TRAFFIC STRIPE (PLASTIC) LINEAR FOOT (METER)
- (B) TRAFFIC STRIPE (PLASTIC) (SYMBOLS, WORDS, ECT).....EACH

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified.