

ITEM 619.1907--25 - WHITE REMOVABLE REFLECTORIZED PAVEMENT STRIPES
ITEM 619.1908--25 - YELLOW REMOVABLE REFLECTORIZED PAVEMENT STRIPES

1. DESCRIPTION:

- 1.01 This work shall consist of furnishing, installing, removing or obliterating pavement markings in construction work zones in accordance with this provision and in reasonably close conformity with the dimensions and lines shown on the plans or established by the Engineer.

2. MATERIALS:

- 2.01 The preformed markings shall consist of white or yellow retroreflective film on a conformable backing.
- 2.02 The quality of the material shall be such that the performance requirements for the marking shall be met.
- 2.03 The markings shall be pre-coated with a pressure sensitive adhesive and shall be capable of being adhered to Asphalt concrete or Portland cement concrete at temperatures as low as 50°F in accordance with the manufacturer's recommendations. A surface preparation adhesive shall be used for all applications to improve initial and long term adhesion.
- 2.04 When stored in a cool dry area indoors, the materials shall be suitable for use for one year after the date of purchase.
- 2.05 The following markers are approved for use under this specification:

Traffic Control Materials Division
3M Center, Building 225-55-08
P.O. Box 33225
St. Paul, MN 55133-3225
www.3M.com/tcm

or equal as approved by the New York State Thruway Authority.

3. CONSTRUCTION DETAILS:

3.01 Classification:

The removable retroreflective striping tape must be designed and constructed in such a manner that it can be readily removed when the markings are no longer applicable. The tape shall be capable of performing for the duration of a normal construction season and shall then be capable of being removed intact or in large pieces.

3.02 Requirements:

- A. **Composition** – The removable, preformed, retroreflective pavement markings shall consist of a highly reflective, enclosed lens white or yellow film with a thin, flexible, conformable backing which is pre-coated with a pressure sensitive adhesive.

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3. CONSTRUCTION DETAILS: (cont'd)

3.02 Requirements: (cont'd)

B. Reflectance

1. The enclosed lens white and yellow films shall have the following initial minimum reflectance values under dry and wet conditions at 1.05° observation angle and 88.76° entrance angle. These angles represent a simulated driver viewing geometry at 100 feet distance. The photometric quantity to be measured shall be the coefficient of retroreflected luminance (R_L), and shall be expressed as millicandelas per square foot per foot candle $[(\text{mcd} \bullet \text{ft}^{-2}) \bullet \text{fc}^{-1}]$. Values measured under dry conditions will be in accordance with the testing procedure of ASTM D4061. Values measured under wet conditions will be in accordance with the testing procedure of ASTM E1710 using a portable retroreflectometer capable of measuring at 100 feet geometry.

“The wet test condition is created using clean water poured from a bucket of approximately 2.64 gallons capacity from a height of approximately 20 inches above the surface. Water is poured evenly along the test surface so that the measuring field and its surrounding area is momentarily flooded by a crest of water. The coefficient of retroreflected luminance (R_L) in condition of wetness shall be measured under the test condition one (1) minute after the water has been poured”.

Visually, the reflective performance shall be similar whether the material is dry or wet.

2. The angular aperture of both the photoreceptor and the light projector shall be six (6) minutes of arc. The reference center shall be the geometric center of the sample, and the reference axis shall be taken perpendicular to the test sample.

	White	Yellow
Entrance Angle	88.76°	88.76°
Observation Angle	1.05°	1.05°
Retroreflected Luminance (R_L) $[(\text{mcd} \bullet \text{ft}^{-2}) \bullet \text{fc}^{-1}]$	750	450

- C. **Adhesion** – The manufacturer shall be required to demonstrate that the properly applied pavement marking adheres to the roadway under climatic and traffic conditions normally encountered in the construction work zone.
- D. **Removability** – The marking film shall be removable from the Asphalt concrete and Portland cement concrete intact or in large pieces, at temperatures above freezing without the use of heat, solvents, grinding or blasting without permanently scarring the roadway surface.
- E. **Skid Resistance** – The surface of the markings when new provides an average skid resistance value of 50 BPN when tested according to ASTM E303.

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3. CONSTRUCTION DETAILS: (cont'd)

3.03 Installation:

- A. Pavement markings in construction work zones shall be placed in accordance with the following provisions:
1. At the end of each day's work, pavement markings shall be in place on each paving lift that is open to normal traffic flow. Materials requiring removal shall be specified above, and marking configurations shall be in accordance with the Manual on Uniform Traffic Control Devices.
 2. The pavement markings shall be maintained and replaced by the Contractor without additional compensation until they have served their purpose, at which time the Contractor will be required to remove them.
 3. Pavement markings shall be applied to clean, dry surfaces in accordance with the manufacturer's installation instructions or a method approved by the Engineer.

4. METHOD OF MEASUREMENT:

- 4.01 Linear pavement markings will be measured in feet complete-in-place for the width specified.
- 4.02 Removal or obliteration of pavement markings in construction work zones will not be measured for payment, but shall be considered incidental to the work.

5. BASIS OF PAYMENT:

- 5.01 Retroreflective preformed pavement markings will be paid for at the contract unit price, which price shall be full compensation for cleaning and preparing the pavement surface, for furnishing and placing all materials, and for all materials, labor, tools, equipment and incidentals necessary to complete the work.