

SECTION 32 17 23
PAVEMENT MARKINGS

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Pavement markings for control and guidance of traffic.
- B. Related Sections:
 - 1. Section 32 12 02 - Flexible Paving (Municipal Projects).

1.02 PRICE AND PAYMENT PROCEDURES

- A. Measurement and Payment
 - 1. Lines:
 - a. Lines shall be measured by the lineal foot on the basis of material type and length actually applied:
 - 1) Separate measurement made on the basis of color and nominal width.
 - 2. Messages:
 - a. Messages shall be measured on the basis of each applied:
 - 1) Separate measurement will be made for each type of message.
- B. The furnishing and installing of specific items and/or the performance of work under certain circumstances shall not be individually paid. The costs shall be included in the unit price bid for the associated pavement markings items. Such items of work include but are not limited to:
 - 1. All costs of preparing the surface, including sandblasting and removing of existing (old) pavement markings on existing pavement areas where a new marking layout is to occur.
 - 2. Controlling and protecting traffic.
 - 3. All other Work and costs of this Section shall be incidental to the Project and included in the Total Base Bid.

1.03 REFERENCES

- A. Minnesota Department of Transportation "Standard Specifications for Construction" 2020 Edition (MnDOT Spec.):
 - 1. 2581 - Temporary Pavement Markings.
 - 2. 2582 - Permanent Pavement Markings.
 - 3. 3354 - Preformed Pavement Marking Tape for Permanent Traffic Lane Delineation and Legends.
 - 4. 3590 - Epoxy Resin Pavement Markings.
 - 5. 3591 - High Solids Water Based Traffic Paint.
 - 6. 3592 - Drop-On Glass Beads.
 - 7. The following Mn/DOT Specifications, attached hereto, shall apply to permanent, preformed pavement markings, except as modified herein:
 - a. Specification - High Durability Preformed Pavement Markings - (including stop lines and crosswalks)
 - b. Specifications – No. 1 Patterned Preformed Polymer Pavement Marking Tape with improved retention of reflectivity for lines and selected symbols and legends

1.04 SUBMITTALS

- A. 1 copy of the chosen paint/epoxy lot or batch formulation.
- B. Pavement Marking Contractor Qualifications/Certifications.
- C. MnDOT Certification approvals.

PART 2 PRODUCTS

- A. MATERIALS
 - 1. Interim Pavement Markings for application on bituminous base course prior to the construction of the bituminous wearing course shall be:
 - 2. High Solids Water Based Traffic Paints, in accordance with the referenced specification.
- B. Permanent Pavement Markings for application on the final bituminous wearing course shall be:
 - 1. Epoxy Resin Pavement Markings, in accordance with the referenced specification.
- C. EQUIPMENT
 - 1. Application equipment for latex and epoxy resin systems shall consist of a machine of the spray type capable of applying the material under pressure at a controlled temperature through nozzles equipped with remotely controlled cutoff mechanisms and suitable line guides that will produce clean cut lines and prevent excessive material drift.
 - 2. For highway and street applications, the marking material shall be applied with truck mounted traveling units properly equipped to apply the stripes as required.
 - 3. Where two or more lines are to be applied closely spaced, the machine shall be equipped to apply those stripes simultaneously.
 - 4. For application of broken lines, the applying unit shall include an automatic feed to control device capable of being set to produce the specified stripe gap ratio.

PART 3 EXECUTION

3.01 GENERAL

- A. At the time of applying the marking material, the application area shall be free of contamination. The contractor shall clean the surface prior to the line application in a manner and to the extent required by the Engineer.
- B. The Contractor shall sandblast or otherwise remove existing (old) pavement markings on existing pavement areas where a new marking layout is to occur.
- C. Pavement markings shall not be applied when the wind or other conditions cause a film of dust to be deposited on the pavement surface after cleaning and before the marking material can be applied.
- D. The filling of tanks, pouring of materials or cleaning of equipment shall not be performed on unprotected pavement surfaces unless adequate provisions are made to prevent spillage of the material.
- E. No striping operations will be permitted between sundown and sunrise without written permission from the Engineer.
- F. All material shall be placed in a workmanlike manner, which shall result in a clearly defined line.

- G. All pavement striping shall be 4-inches wide, unless noted otherwise on the plans.
- H. Application for the marking material shall be such as to provide uniform film thickness throughout the coverage area. Stripe ends shall be clean cut and square, with a minimum of material beyond the cutoff.
- I. All pavement markings not conforming to the requirements of the Contract shall be removed and replaced or otherwise repaired to the satisfaction of the Engineer. Removal of unacceptable work shall be accomplished with suitable blasting or grinding equipment unless other means are approved by the Engineer.

END OF SECTION