

**SECTION 32 17 23**

**PAVEMENT MARKINGS**

**PART 1 - GENERAL**

**1.01 DESCRIPTION**

- A. This work shall consist of applying traffic markings on the finished paved area in accordance with these specifications, at the locations and of the dimensions shown on the drawings, or as directed by the A/E.
- B. Details not shown on the drawings shall be in conformance with the Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways published by the U.S. Department of Transportation, Federal Highway Administration.

**1.02 MATERIALS**

- A. Traffic paint shall conform to the requirements of AASHTO M248, Type N. Glass beads shall conform to the requirements of AASHTO M247, Type I, moisture resistant with flotation properties. Traffic markings shall be slip resistant.
- B. Thermoplastic striping material shall conform to the following:
  - 1. Solid form: AASHTO M249.
  - 2. Flame spray powder: AASHTO M250.
- C. Description and sample specifications for the following materials are included in the Traffic Control Devices Handbook published by the U.S. Department of Transportation, Federal Highway Administration.
  - 1. Preformed Plastic Pavement Markings:
    - a) 60-mil retroreflective pliant polymer.
    - b) 60-mil premix pliant polymer.
    - c) 90-mil cold plastic.
  - 2. Pavement Striping Tape and Sheeting
  - 3. Raised Pavement Markers
    - a) When raised pavement markers are specified in the contract, they may be laid on the bituminous surface prior to the final rolling. Do not apply these markers on new Portland cement concrete pavement until the pavement is one year old.

**1.03 CONSTRUCTION REQUIREMENTS**

- A. General
  - 1. The area to be marked shall be clean and free of loose particles. This may be done by sweeping or other methods acceptable to the A/E.
  - 2. Unless otherwise specified on the drawings, stripes shall be 4 inches wide. Broken line segments (dashed or skip traffic stripe) shall be 10 feet in length with 30-foot gaps or 2 feet in length with 4-foot gaps as shown on the drawings.
  - 3. Arrows and letters shall be of the dimensions shown in the MUTCD.
  - 4. All markings shall present a clean cut, uniform and workmanlike appearance. The contractor at his expense shall correct all markings that fail to have a uniform, satisfactory appearance, both during day and night.
- B. Paint Markings
  - 1. The markings shall be applied by machine methods acceptable to the A/E. The paint machine shall be of the spray type capable of satisfactorily applying the paint under

pressure with a uniformity of feed through nozzles spraying directly upon the pavement. Each machine shall be capable of applying two separate stripes, either solid or skip, at the same time. Each paint tank shall be equipped with a mechanical agitator. Each nozzle shall be equipped with satisfactory cutoff valves that will apply broken or skip lines automatically. Each nozzle shall have a mechanical bead dispenser that will operate simultaneously with the spray nozzle and distribute the beads in a uniform pattern at the rate specified. Each nozzle shall also be equipped with suitable line guides consisting of metallic shrouds or air blasts.

2. Mix the paint thoroughly prior to application and apply when the air temperature is above 40 degrees F to a clean and dry surface.
3. The minimum rate of application for 4-inch width solid traffic stripes shall be 16.5 gallons per mile.
4. The minimum rate of application for arrows and letters shall be 0.01 gallon per square foot of markings.
5. Apply glass beads at a minimum rate of 5.5 pounds of beads for each gallon of paint.
6. Protect the painted area from traffic until the paint is thoroughly dry.

**C. Thermoplastic Markings**

1. The application may be either by the hot extruded or the hot spray method, as approved by the A/E.
2. The minimum bond strength, when markings are applied to bituminous pavements shall be 125 psi.
3. Apply only on dry pavements when the pavement temperature is 55 degrees F or above.
4. Additional glass beads, conforming to AASHTO M249, shall be imbedded in the thermoplastic material at a rate of 2 pounds per 100 square feet of stripe.
5. Prior to placement of the thermoplastic stripe on the clean and dry pavement, apply an epoxy resin of the type and amount recommended by the manufacturer of the thermoplastic striping material.
6. The thermoplastic material shall not be less than 1/8 inch or more than 3/16 inch in thickness. Apply the width of traffic stripe in one application.
7. If necessary, wash the surface of new and existing bituminous pavement with a detergent solution followed by a water rinse to remove any clay coating or other foreign material. On new or existing Portland cement pavement, abrasive blast clean the surface to remove laitance, curing seal or other foreign material.
8. Protect the newly extruded stripes from damage and replace any traffic stripe that is damaged or fails to adhere properly to the surface of the pavement with a stripe meeting the requirements of these specifications.

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION**

**END OF SECTION**