

GENERAL NOTES

QUANTITY CALCULATIONS	FHWA REGION	STATE	PROJECT
BY <i>ECS</i> DATE <i>3/73</i>	5	OHIO	
CHKD <i>EAC</i> DATE <i>3/73</i>			

8
23

LAK-040-0.98
LAK-285-3.83
LAK-91-5.49

THERMO-PLASTIC PAVEMENT MARKING MATERIAL

This pavement marking material shall be reflectorized "Permaline" thermoplastic compound as manufactured by Permaline Corporation of America or reflectorized "Catatherm" thermoplastic compound as manufactured by Cataphote Corporation, or approved equal. In addition, the thermoplastic material furnished on this contract shall meet the following specifications:

Glass beads meeting Ohio Specification No. 712.05 shall be uniformly mixed throughout the material at the rate of not less than 250 lbs. of beads per 1,000 lbs. of thermo-plastic material. Immediate reflectorization shall be accomplished by the application of beads conforming to the following grading:

Sieve No.	Total Percent Passing
20	90-100
35	0-10

Beads shall be applied to the surface of the compound at the time the thermo-plastic material is applied to the pavement. A glass bead dispenser of approved design shall be used for a uniform surface application of beads at a rate of not less than two (2) pounds of beads per 33 square feet of line.

The material shall withstand temperature variation from minus 20 degrees F. to plus 120 degrees F., without deformation or discoloration, and shall maintain its original dimensions and placement, free from tack, chipping, or spalling. White thermo-plastic material shall be free of dirt or tint.

Samples

The Contractor shall furnish a 10-pound material sample of the white thermoplastic compounds he proposes to furnish and also white typical samples of line 4 inches wide by 10 inches long.

Material installed on the road on this contract in accordance with the contractor's standard practice shall be compared with the original samples at least 90 days after construction and shall show no darkening or discoloration. The material shall harden sufficiently within 15 minutes after application to allow traffic over the line without pickup or impression. A material certification and performance guarantee may be substituted for the required material sample and performance evaluation specified above. These exceptions would be allowed for projects where less than 4000 lbs. of thermoplastic material is to be used.

Construction Details

The material shall be applied to a uniform minimum thickness of 1/8 inch to the width specified. Lines shall be straight and true and at the location designated by the Engineer. Line widths shall be achieved by the use of 4", 6", 8" and 12" combina-

tion applicators. The minimum number of passes shall be used, that is, a 24" line should consist of two 12" passes. When the width of a line requires more than one pass, the individual lines shall not overlap. A 1/4" gap will be acceptable between lines in this case.

All pavement marking shall be applied in accordance with the standard pavement marking symbol, word or line specifications dimension drawing governing the types of symbols or lines shown on the plans. A set of templates are required for layout prior to the installation of arrows and words.

On all pavement surfaces and at locations where a new thermo-plastic line is to be applied over an old painted line, the contractor shall prepare the surface to insure adhesion. No lines shall be applied directly longitudinally over any construction crack or joint. Epoxy resin primer shall be used on all pavement surfaces prior to applied plastic markings. Type and application rate of primer shall be submitted to the Engineer for approval.

Placement of all markings shall be in accordance with the plans, subject to any adjustments as directed by the Engineer.

The air temperature at the time of application shall be not less than 50 degrees F. The temperature of the compound during application shall never fall below 375 degrees F.

Method of Measurement

The quantity paid for shall be the number of linear feet or miles of the several types of lines and each symbol or word installed and accepted, measured in place. Measurements shall be made by a representative of the contractor and the Engineer. The length of lane lines to be paid for shall be the actual number of miles, exclusive of gaps, measured in place, completed and accepted. Pavement arrows and words shall be measured per each and transverse stripes shall be paid for on a per lineal foot basis.

Basis of Payment

These items shall be paid for in accordance with Item 621 or at the contract unit price per mile of 4" or 6" white thermo-plastic lane or edge lines; per linear feet of 8" white thermo-plastic channelization lines, and 24" white thermo-plastic stop lines; per each for white thermo-plastic pavement arrows, and words; and per lineal foot for 16" Transverse Stripes as specified herein. Price and payment shall constitute full compensation for providing materials, hauling, surface preparation, placing, protecting all applied items as specified or required by the Engineer, and for all labor, tools, materials, equipment and incidentals necessary to lay out and complete the work.

Maintaining Traffic

Placement of pavement markings on the roadway lanes shall be accomplished on weekdays (Monday through Friday) between the hours of 9:00 AM and 3:00 PM.

~~The contractor shall provide 2 trailing vehicles plus a police cruiser with flasher following the pavement marking equipment when markings are placed in order to provide advance warning to motorists of the temporary lane closure and construction. The 2 trailing vehicles shall travel 500 feet apart with the remote vehicle traveling on the shoulder (left or right as applicable) where usable shoulder is available. The intermediate trailing vehicle shall travel in the closed lane, 500 feet behind the pavement marking equipment. The police cruiser shall travel 500 to 1000 feet behind the remote trailing vehicle.~~

~~Each trailing vehicle shall have flashers plus black and yellow warning signs mounted on the back facing traffic with standard type messages advising motorists of the work ahead, advisory warning speed, and which lane is closed.~~

~~When markings on ramps are placed, one flagman may be substituted for one of the trailing vehicles with the same distance intervals trailing the pavement marking equipment.~~

~~When stationary pavement marking operations are performed under traffic such as placing stop bars, words and pavement arrows, the work site must be protected using traffic cones, barricades and advance warning signs. Flagmen must be used to direct traffic around the work site.~~

~~Cost of all labor, materials, equipment and incidentals for maintaining traffic shall be included in the cost of the various thermo-plastic pavement marking items.~~

625 MAGNETIC DETECTOR PROBE

This item shall consist of furnishing and installing a magnetic detector probe, non-metallic conduit for housing probe, brass cap, conduit and trench from probe to pullbox and all incidentals necessary to complete the installation.

The basic probe shall be an Automatic Signal Model MK or Eagle Signal Model EW1 or approved equal.

Payment for Item 625 "Magnetic Detector Probe" will be made at the contract unit price for each probe in place, tested and accepted.

625 MAGNETIC DETECTOR AMPLIFIER

The magnetic detector amplifier is an electronic device that will detect the presence or motion of a mass of metal.

The basic amplifier shall be an Automatic Signal Model MR-10 or Eagle Signal Model EV-5 or approved equal.

Payment for Item 625 "Magnetic Detector Amplifier" will be made at the contract unit price for each detector amplifier, completely wired and installed in controller cabinet.