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| REVIEW OF NEW SPECIFICATION OR SPECIFICATION CHANGE  | 627-13 |
| **Specification Section No.:** 627 | **Item:** Preformed Plastic Pavement Marking |
| **Originating Office:** Safety and Traffic Branch | **By:** Chevalier/Matthews |
| **Date Sent For Review:** March 10, 2016 | **Date Comments Due: April 6, 2016** |
| Submit response to: STANDARDS AND SPECIFICATIONS UNIT, DIVISION OF PROJECT SUPPORT 4TH FLOOR, CDOT HEADQUARTERS |
| **Vote****/N** | **Concurrent Reviews – Others Commenting** | The attached Draft Specification is submitted for your review and comments. If not returned by Date Comments Due, the draft specification will be considered to be approved unless the Standards and Specifications Unit of the Project Development Branch [(303) 757-9474, (303) 757-9402] is advised otherwise.**REMARKS:** If these proposed changes are approved, our unit will issue these in a new standard special provision. |
|  | **Spec Committee Members:** |  **✓** |
|  | Co-Chairman: Lacey |  |
|  | Region 1: Quirk |  |
|  | Region 1: Stratton |  |
|  | Region 2: Ferguson |  |
|  | Region 3: Necessary |  |
|  | Region 4: Locke |  |
|  | Region 5: Valentinelli |  |
|  | Project Development: Vacant |  |
|  | Specifications: Brinck |  |
|  | Bridge: Hasan |  |
|  | Contracts & Market Analysis: Eddy |  |
|  | Materials: Schiebel |  |
|  | Traffic Engineering: Matthews |  | REVIEWER COMMENTS:( ) Approved ( ) Disapproved ( ) ModifiedIf disapproved or modified, give reason why and show any modifications on the attached draft copy: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ Name/Signature Date |
|  | Maintenance: Weldon |  |
|  | FHWA: Egal |  |
|  | Attorney General: Milan |  |
|  |  |  |
|  | **Others:** |  |
|  | Colorado Contractors Assoc.: Moody |  |
|  |  |  |
|  | **Technical Committees:** |  |
|  | PDAC |  |
|  | Drainage Advisory Committee (DAC) |  |
|  | Water Quality Advisory Committee (WQAC) |  |

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| **COLORADO DEPARTMENT OF TRANSPORTATION****SUBMITTAL OF NEW SPECIFICATION OR SPECIFICATION CHANGE** | Log No. (Assigned by Standards and Specifications Unit)627-13 |
| TO: Standards and Specifications Unit, Project Development, Suite 290 | FROM:Traffic and Safety(Region, Branch or Technical Committee) |
| SPECIFICATION SECTION NO.627 | ITEMPreformed Plastic Pavement Marking | Priority Routine[x]  Fast[ ]  |
| **Reason for this new or changed specification:**Removing the option for pressing the tape in the asphalt. This method of installation has performance issues with the material and it can’t be warrantied. References to pressed pavement marking is being removed from the construction requirements and in the list of pay items.Instead, only inlaid preformed plastic pavement marking will be permitted, with an increased depth of grooving. This would allow for a reduction in the minimum air temperature.In addition, sandblasting is now no longer being allowed, so references to it are being removed. |
| New or Revised Specification:See Attached. |
| Note: See Procedural Directive 513.1 for a description of appropriate specification development procedures. |

 **CDOT Form 1215 10/01**

**627.08 Preformed Plastic Pavement Marking.**  This retroreflective preformed plastic strip shall be suitable for application on asphaltic or portland cement concrete pavement. The strip shall be applied at the locations called for on the plans or as directed.

If recommended by the manufacturer, an epoxy resin primer conforming to subsection 708.07 shall be applied to all pavement surfaces prior to the application of the preformed plastic pavement marking.

The surface of the pavement and bridge decks shall be clean, free of loose foreign material, dry and have no moisture for a minimum of 48 hours prior to application of the markings. The Contractor shall use an approved method for cleaning. Sandblasting will not be permitted.

The air temperature during installation shall be at least 40 °F.

The marking strip as applied shall be in good appearance, free of cracks and the edges shall be true and straight.

The preformed plastic pavement marking shall be Type I, Type II, or Type III as shown on the plans.

Prior to beginning installation operations, the Contractor shall submit to the Engineer instructions from the performed plastic pavement manufacturer detailing surface preparation, grooving requirements and material application. The instructions shall include the following:

* + - 1. Equipment Requirements
			2. Approved Work Methods and Procedures
			3. Material Application Temperature Requirements
			4. Ambient Air and Surface temperature Requirements
			5. Weather Limitations
			6. Special Precautions
			7. Any other requirements necessary for successful installation and satisfactory performance of the material.

The Contractor shall secure from the manufacturer all warranties and guarantees with respect to materials, workmanship, performance, or combination thereof, and shall include these warranties and guarantees with the Certification of Compliance.

Materials supplied without installation instructions or with incomplete instructions will not be accepted for use.

Unless otherwise shown on the plans, typical pavement markings shall conform to the shapes and sizes as shown on Standard Plan S-627-1.

The Contractor shall make all arrangements to have a manufacturer-trained installer of the manufacturer’s products on-site during the placement of preformed plastic pavement marking to ensure proper installation. A minimum of two weeks prior to the placement of the preformed plastic pavement marking, the Contractor shall submit written documentation of the installer’s qualifications and training in the installation of preformed plastic pavement marking. Upon completion of the work, the Contractor shall obtain and submit to the Engineer written documentation from the manufacturer-trained installer certifying that the product was installed in full compliance with this specification and manufacturer’s recommendations.

The preformed plastic pavement marking shall be inlaid on new and existing pavements as shown in the Contract. The material shall be capable of use for patching worn areas of the same type according to the manufacturer’s recommendations.

The preformed plastic pavement marking shall conform to pavement contours by the action of traffic, and shall be capable of application on new, dense, and open graded asphalt wearing courses during the paving operations according to the manufacturer’s recommendations. After application, the markings shall be immediately ready for traffic.

1. *Inlaid Preformed Plastic Pavement Marking.* The grooved width for inlaid preformed plastic pavement marking is called for in the Contract, grooved width shall be the pavement marking width plus 1 inch, with a tolerance of ± ¼ inch. The depth of the grooves shall be 130 mils ± 5 mils. Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint.

The bottom of the groove shall have a smooth, flat finished surface. The spacers between blade cuts shall be such that there will be less than a 10 mil rise in the finished groove between the blades.

Grooves shall be clean, dry and free of laitance, oil, dirt, grease, paint or other foreign contaminants. The Contractor shall prevent traffic from traversing the grooves, and re-clean grooves, as necessary, prior to application of the preformed plastic pavement markings.

**627.13** The accepted quantities will be paid for at the contract price per unit of measurement for each of the pay items listed below that appear in the bid schedule.

Payment will be made under:

**Pay Item Pay Unit**

Pavement Marking Paint Gallon

Pavement Marking Paint (Waterborne) Gallon

Pavement Marking Paint (Low VOC Solvent Base) Gallon

Epoxy Pavement Marking Gallon

Methyl Methacrylate Pavement Marking Gallon

Thermoplastic Pavement Marking Square Foot

Preformed Plastic Pavement Marking (Type \_\_) (Inlaid) Square Foot

Preformed Plastic Pavement Marking

(Word - Symbol) (Type \_\_) Square Foot

Preformed Plastic Pavement Marking

(Xwalk - Stop Line) (Type \_\_) Square Foot

\_\_\_\_Inch Pavement Marking Tape Linear Foot

Pavement Marking Tape (Removable) Linear Foot

Raised Pavement Marker (Temporary) Each

Pavement Marking Paint (Word-Symbol) Square Foot

Pavement Marking Paint (Xwalk-Stop Line) Square Foot

Thermoplastic Pavement Marking (Word-Symbol) Square Foot

Thermoplastic Pavement Marking (Xwalk-Stop Line) Square Foot

Preformed Thermoplastic Pavement Marking Square Foot

Preformed Plastic Pavement Marking 60 mil

(Word-Symbol) Square Foot

Preformed Plastic Pavement Marking 60 mil

(Xwalk-Stop Line) Square Foot

Preformed ThermoplasticPavement Marking

 (Word-Symbol) Square Foot

Preformed Thermoplastic Pavement Marking

(Xwalk-Stop Line) Square Foot

Glass beads and cleaning with high pressure water blast or air blast shall be included in the cost of the work.

Each authorized application of temporary pavement marking will be measured and paid for at the contract unit price for the type of material used.

Control points and Contractor pavement marking plans will not be measured and paid for separately, but shall be included in the work.

All costs associated with having the Preformed Plastic Pavement Marking manufacturer-trained installer on-site and providing the documentation will not be measured and paid for separately, but shall be included in the work.

REVISION OF SECTION 627

PREFORMED PLASTIC PAVEMENT MARKING

Section 627 of the Standard Special Provisions is hereby revised for this project as follows:

In subsection 627.08, delete the third, fourth, fifth and sixth paragraphs and replace with the following:

The surface of the pavement and bridge decks shall be clean, free of loose foreign material, dry and have no moisture for a minimum of 48 hours prior to application of the markings. The Contractor shall use an approved method for cleaning. Sandblasting will not be permitted.

The air temperature shall be at least 60 °F.

In subsection 627.08, delete the fourteenth paragraph and replace with the following:

The preformed plastic pavement marking shall be inlaid on new and existing pavements as shown in the Contract. The material shall be capable of use for patching worn areas of the same type according to the manufacturer’s recommendations.

In subsection 627.08 (a), delete the first paragraph and replace with the following:

1. *Inlaid Preformed Plastic Pavement Marking.* The grooved width for inlaid preformed plastic pavement marking is called for in the Contract, grooved width shall be the pavement marking width plus 1 inch, with a tolerance of ± ¼ inch. The depth of the grooves shall be 130 mils ± 5 mils. Groove position shall be a minimum of 2 inches from the edge of the pavement marking to the longitudinal pavement joint.

In subsection 627.13 delete the second and third paragraphs and replace with the following:

Payment will be made under:

**Pay Item Pay Unit**

Pavement Marking Paint Gallon

Pavement Marking Paint (Waterborne) Gallon

Pavement Marking Paint (Low VOC Solvent Base) Gallon

Epoxy Pavement Marking Gallon

Methyl Methacrylate Pavement Marking Gallon

Thermoplastic Pavement Marking Square Foot

Preformed Plastic Pavement Marking (Type \_\_) (Inlaid) Square Foot

Preformed Plastic Pavement Marking

(Word - Symbol) (Type \_\_) Square Foot

Preformed Plastic Pavement Marking

(Xwalk - Stop Line) (Type \_\_) Square Foot

\_\_\_\_Inch Pavement Marking Tape Linear Foot

Pavement Marking Tape (Removable) Linear Foot

Raised Pavement Marker (Temporary) Each

Pavement Marking Paint (Word-Symbol) Square Foot

Pavement Marking Paint (Xwalk-Stop Line) Square Foot

Thermoplastic Pavement Marking (Word-Symbol) Square Foot

Thermoplastic Pavement Marking (Xwalk-Stop Line) Square Foot

Preformed Thermoplastic Pavement Marking Square Foot

Preformed Plastic Pavement Marking 60 mil

(Word-Symbol) Square Foot

Preformed Plastic Pavement Marking 60 mil

(Xwalk-Stop Line) Square Foot

Preformed ThermoplasticPavement Marking

 (Word-Symbol) Square Foot

Preformed Thermoplastic Pavement Marking

(Xwalk-Stop Line) Square Foot