



# INDIANA DEPARTMENT OF TRANSPORTATION

*Driving Indiana's Economic Growth*

## Design Memorandum No. 11-18 Technical Advisory

September 15, 2011

**TO:** All Design, Operations, and District Personnel, and Consultants

**FROM:** /s/ Todd Shiels  
Todd Shields  
Manager, Office of Technical Services  
Highway Operations Division

**SUBJECT:** Pavement Markings

**REVISES:** *Indiana Design Manual Section 76-3.02*  
*Indiana Design Manual Figure 76-3A*

**EFFECTIVE:** Immediately

Use of the pavement-marking materials listed below has been revised. *Indiana Design Manual* Figure 76-3A has also been revised, and is attached herewith.

### A. Thermoplastic

Thermoplastic markings may be used for the center line, lane lines, or edge lines where resurfacing is not proposed or scheduled within the next three years, and the construction-year AADT exceeds 1000 vehicles per lane. Edge lines should not be broken to accommodate roadway-surface drainage.

### B. Multi-Component

Epoxy-paint markings are now identified as multi-component markings. Multi-component markings should be used where described in *Indiana Design Manual* Section 76-3.02(03). The pay-item names and code numbers regarding epoxy markings are unchanged.

### **C. Preformed Plastic**

Preformed-plastic markings may be used in the same locations as multi-component markings.

### **D. Extended-Warranty Preformed Plastic**

Extended-warranty preformed plastic markings are more durable, retain retro-reflectivity and some wet retro-reflectivity characteristics, and have an increased detection distance. However, these markings are more expensive due to material and installation costs. To take advantage of the performance properties, the material is either inlaid into HMA pavement during finish rolling, or overlaid into grooved HMA pavement or PCCP. The best application is as lane lines for a divided highway to effect a competitive life-cycle cost.

### **E. Surface Conditions**

Most pavement-marking materials can be applied to either asphalt or concrete pavement. Pavement markings on asphalt pavement tend to last longer than those on concrete pavement. Hot-applied thermoplastic pavement-marking materials should not be placed on a concrete pavement.

### **F. Retro-Reflectivity Testing**

If pay quantities for longitudinal paint markings exceed 50,000 lft, or if those for other marking materials exceed 10,000 lft, a pay item for retro-reflectivity testing, code number 808-09381, pay unit lump sum, should be included. The quantities are for all markings, regardless of color.

TS: alu  
Attachment

Application <sup>1</sup>	Material Type					
	Paint	Thermo-plastic	Multi-Component	Preformed Plastic	Ext.-Warranty Preformed Plastic	Raised Pavement Markers
ADT per lane	< 1000	> 1000	> 1000	> 1000	> 6000	> 2500, 2-lane > 6000, 4-lane
Pavement Surface Life	< 3 Years	≥ 3 Years	≥ 3 Years	≥ 3 Years	≥ 4 Years	≥ 4 Years
Edge Lines	X	X	X	X		X
Center Line	X	X	X	X		X
Transverse Markings	X	X		X		
Concrete Pavement	X		X	X	X <sup>2</sup>	X
Asphalt Pavement	X	X		X	X <sup>2</sup>	X

Notes:

<sup>1</sup> Other applications or restrictions may apply; see Section 76-3.02 for additional information.

<sup>2</sup> Broken lines only.

### RECOMMENDED PAVEMENT-MARKING APPLICATIONS

Figure 76-3A