502-2.01(03) Materials and Application [Rev. Sept. 2015]

The pavement marking materials and applications are described on Figure 502-2C. See the INDOT *Standard Specifications* for materials properties and application requirements during construction. The following provides additional guidance regarding the materials.

1. Paint. Paint-applied markings are less expensive than other materials. They are used where the additional cost of durable pavement markings cannot be justified. A short project length, by itself, does not prevent the use of durable markings materials. A disadvantage of paint is that it can be quickly worn away on a high-traffic-volume roadway. Therefore it often needs to be reapplied more than once a year.
   Paint should be used for longitudinal lines as follows:

   a. where the AADT is less than 10,000 vehicles; or
   b. where the remaining surface life of the pavement is less than eight years, or where the pavement is scheduled for resurfacing within eight years; or
   c. for marking non-mountable islands and raised curbs; or.
   d. where rumble stripes are specified (either edge line, center line, or both); or
   e. on pavement surface treatments with a depth of less than 1.5 in. (e.g. Micro-surface, UBWC, 4.75 mm HMA Overlay, etc.).

2. Durable Marking Materials. Durable marking materials provide enhanced retro-reflectivity and a longer service life. The INDOT *Standard Specifications* require that longitudinal lines, other than on bridge decks and RCBAs, be grooved when durable materials are used. Longitudinal lines on bridge decks and RCBAs should be surface applied. The contractor will provide a warranty for both surface-applied and grooved durable markings which covers presence, retro-reflectivity, and color. This practice serves to protect the additional investment in durable markings. INDOT uses the following types of durable markings.

   a. Thermoplastic. Hydrocarbon and alkyd thermoplastic markings may be used on asphalt pavement under the following conditions.

      i. Longitudinal Lines. These may be used for the center line, edge lines, or lane lines at a location that is not proposed or scheduled for resurfacing within the next eight years and where the AADT is in excess of 10,000 vehicles.

      The use of thermoplastic should not be specified with longitudinal rumple

stripes unless directed by the district traffic engineer.

ii. Transverse Markings. These may be used for transverse markings as shown in Figure 502-2C.

iii. Painting Cycles. These may be used on a road that requires two or more applications of paint lines per year.

iv. Decision Point. These may be used where there is a need for more-positive lane identification because of alignment, transitions, or channelization.

b. Multi-Component. Multi-component markings may be used for the center line, lane lines, or edge lines. They are not typically used for transverse markings or for marking a non-mountable island or raised curb because of problems that can develop with the intermittent application and dry time. Multi-component markings may be used as follows:

i. Longitudinal Lines. These may be used for the center line, edge line, or lane lines at a location that is not proposed or scheduled for resurfacing within the next eight years.

ii. Transverse Markings. Except for transverse crosshatch markings in gore areas or channelized turn lanes, multi-component material should not be used for transverse markings.

iii. Painting Cycles. These may be used on a road that requires two or more applications of paint lines per year.

iv. Decision Point. These may be used where there is a need for more-positive lane identification because of alignment, transitions, or channelization.

c. Preformed Plastic. The criteria for multi-component markings are also applicable for permanent applications of preformed plastic markings. Temporary preformed plastic markings are used in a construction zone. Temporary preformed plastic markings should not be used for permanent applications.

Preformed plastic markings are more durable, and have retained retro-reflectivity, increased detection distance, and wet retro-reflectivity characteristics. However,

these markings are more expensive due to material and installation costs. A typical application is for lane lines on a divided highway where the life-cycle cost has been shown to be favorable.

3. Raised Pavement Markers. See Section 502-2.02(12) through 502-2.02(15) for information about the use of raised pavement markers.