

**SECTION 970**  
**MATERIALS FOR RAISED RETRO-REFLECTIVE PAVEMENT**  
**MARKERS AND BITUMINOUS ADHESIVE**

**970-1 Raised Retro-Reflective Pavement Markers.**

**970-1.1 Composition:** The marker shall consist of materials conforming to ASTM D 4280.

**970-1.2 Physical Requirements:** The physical size of the RPM shall conform to the requirements of ASTM D 4280. Laboratory and field samples for RPMs and bituminous adhesives shall meet the requirements of ASTM D 4280 and include the following requirements:

The minimum area of each reflective face shall be 2.5 in<sup>2</sup>. The minimum base size shall be 12 in<sup>2</sup>.

**970-1.2.1 Designation of Marker Type, Color and Classification:** The marker description shall be in order of type, color and reflective surface condition in accordance with ASTM D 4280 and the following chart.

RPM Class			
Class	Description	Expected Normal Service	ASTM Surface Designation
A	Temporary marker	Up to six months	none
B	Permanent marker	Long life	H, hard abrasion resistant lens
D	Work zone marker	Per project requirement	none
E	Temporary work zone	Up to five days	none

**970-1.3 Performance Requirements:** The RPM shall meet the performance requirements specified in ASTM D 4280, Section 6.2, for luminous intensity, flexural strength, compressive strength, resistance to cracking, and thermal cycling, as modified herein. Test method FM 5-566 will be used to evaluate marker performance.

**970-1.3.1 Class A Markers:** Meet the coefficient of luminous intensity requirements of ASTM D 280. Abrasion treatment is not required for Class A Markers.

**970-1.3.2 Class B (Abrasion Resistant) Markers:** Meet the coefficient of luminous intensity requirements of ASTM 4280 after abrasion. Each marker shall be marked as abrasion resistant by the manufacturer.

**970-1.3.3 In-service Minimum Reflective Intensity:** The Class B reflective pavement marker shall retain a minimum coefficient of luminous intensity for 12 months of not less than 25% of the values shown in Table 1 of ASTM D 4280, and a minimum luminous intensity of 0.2 cd/fc at the end of two years.

**970-1.4 Application Properties:** Application properties shall meet the requirements of Section 706.

**970-1.5 Packaging and Labeling:** Shipment shall be made in containers which are acceptable to common carriers and packaged in such a manner as to ensure delivery is in perfect condition. Each package shall be clearly marked as to the name of the manufacturer, type, color, quantity enclosed and date of manufacture. Show the designation of the marker in accordance with ASTM D 4280.

**970-2 Bituminous Adhesive For Pavement Markers.**

**970-2.1 General:** Bituminous adhesive as recommended by the marker manufacturer shall be used for bonding the markers to the pavement.

**970-2.2 Specific Requirements for Bituminous Adhesives:** The bituminous adhesive shall meet the properties of adhesives per ASTM D 4280 Section A1, including filler-free and filler alone properties.

**970-2.3 Performance Requirements:** The performance of the adhesive shall be determined in accordance with the test methods listed in ASTM D 4280.

**970-3 Product Acceptance on the Project.**

Acceptance will be made in accordance with the requirements of Section 706. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.