PAVEMENT MARKINGS, COATINGS, AND
RECYCLED MATERIAL (MISCELLANEOUS)

SECTION 970
MATERIALS FOR ~~RAISED~~ RETROREFLECTIVE PAVEMENT MARKERS AND BITUMINOUS ADHESIVE

970-1 ~~Raised~~ Retroreflective Pavement Markers (RPM).

All ~~raised~~retroreflective pavement markers shall be one of the products listed on the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product must submit an application in accordance with Section 6 and include independent testing showing the product meets the requirements of this Section and Section 990. The Department will test all ~~raised r~~Retroreflective ~~p~~Pavement ~~m~~Marker~~s~~ in accordance with FM 5-566.

The ~~marker~~RPM description shall be in order of type, color and retroreflective surface condition in accordance with ASTM D4280 and the following chart.

RPM Class			
Class	Description	Expected Normal Service	ASTM Surface Designation
~~A~~	~~Temporary marker~~	~~Up to six months~~	~~none~~
B	Temporary/Permanent ~~marker~~	Long life	H, hard abrasion resistant lens
D	Temporary, flexible - retroreflective tabs, for rumble striping only	One month	Monodirectional yellow ~~marker~~ Bi-directional yellow ~~marker~~

970-2 Performance Requirements.

970-2.1 Class ~~A and~~ B ~~Marker~~RPMs: The RPMs shall meet the performance requirements specified in ASTM D4280, Section 6.2, for luminous intensity, flexural strength, compressive strength, resistance to cracking, and thermal cycling, as modified herein.

970-2.1.1 Composition: The ~~marker~~RPM shall consist of materials conforming to ASTM D4280.

970-2.1.2 Physical Requirements: The physical size of the RPM shall conform to the requirements of ASTM D4280. Laboratory and field samples for RPMs and bituminous adhesives shall meet the requirements of ASTM D4280 and include the following requirements:

The minimum area of each retroreflective face shall be 2.5 square inches. The minimum base size shall be 12 square inches.

~~**970-2.1.3 Class A Markers:** Meet the coefficient of luminous intensity requirements of ASTM D4280. Abrasion treatment is not required for Class A Markers.~~

970-2.1.~~4~~3 ~~Class B (~~Abrasion Resistant~~) Markers~~: Meet the coefficient of luminous intensity requirements of ASTM D4280 after abrasion. ~~Each marker shall be marked as abrasion resistant by the manufacturer.~~

970-2.1.~~5~~4 In-Service Minimum Retroreflective Intensity: Class B retroreflective pavement markers shall retain a minimum coefficient of luminous intensity for

18 months of not less than 30% of the values shown in Table 1 of ASTM D4280, and a minimum luminous intensity of 0.2 cd/fc at the end of two years.

970-2.2 ~~Performance Requirements –~~Class D ~~Markers~~RPMs: Meet the requirements of Section 990.

970-3 Packaging and Labeling.

Shipment shall be made in containers which are acceptable to common carriers and packaged in a manner which ensures delivery in perfect condition. Each package shall be clearly marked ~~as to~~with the APL number, name of the manufacturer, type, color, quantity enclosed and date of manufacture. Show the designation of the marker in accordance with ASTM D4280 ~~and show the product name as it appears on the APL~~.

970-4 Bituminous Adhesive for Pavement Markers.

970-4.1 General: Bituminous adhesive as recommended by the marker manufacturer shall be used for bonding the markers to the pavement.

970-4.2 Specific Requirements for Bituminous Adhesives: The bituminous adhesive shall meet the properties of adhesives per ASTM D4280 Section A1, including filler-free and filler alone properties.

970-4.3 Performance Requirements: The performance of the adhesive shall be determined in accordance with the test methods listed in ASTM D4280.

970-5 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.