

NON-REFLECTIVE PAVEMENT MARKERS (CERAMIC)

Ceramic non-reflective pavement markers Types A and AY shall consist of a heat-fired, vitreous, ceramic base and a heat-fired, opaque, glazed surface to produce the properties required in these specifications. The markers shall be produced from any suitable combination of intimately mixed clays, shales, talcs, flints, feldspars, or other inorganic material which will meet the properties herein required. The markers shall be thoroughly and evenly matured and free from defects which affect appearance or serviceability.

The bottom of the ceramic markers shall be free from gloss or glaze and shall have areas of integrally formed protrusions projecting from the surface which will increase the effective bonding surface area of adhesive. The faces of the protrusions shall not deviate more than 0.05 inch from a flat surface. The areas of protrusion shall have faces parallel to the bottom of the marker and shall project approximately 0.04-inch from the bottom. The area of protrusions shall constitute a minimum of 30 percent of the area of the bottom of the marker and shall increase the bonding surface area by a minimum of 24 percent. To facilitate forming and mold release, the sides of the protruded area may be tapered. This taper shall not exceed 15 degrees from perpendicular to the marker bottom.

Ceramic type non-reflective pavement markers shall conform to the following finish and testing requirements:

1. Finish - The top surface of the marker shall be convex and the radius of curvature shall be between 3.5 inches and 6 inches except that the radius of the 0.5 inch nearest the edge may be less. Any change in curvature shall be gradual. The top and sides shall be smooth and free of mold Darks, pits, indentations, air bubbles, or other objectionable marks or discolorations.
2. Tests - All tests shall be perforated in accordance with California Test 669.

Tests	Requirement
a. Adhesive bond strength to bottom surface of the marker using adhesives Specified in Sections 95-2.05 "Standard Set Epoxy Adhesive for Pavement Markers," and 95-2.04, "Rapid Set Epoxy Adhesive for Pavement Markers"	700 psi min.
b. Glaze thickness.....	0.007" min.
c. Hardness.....	(Moh) 6 min.
d. Directional reflectance (Type A, white markers only)	
Glazed surface.....	75 min.
Body of marker.....	65 min.
e. Yellowness index (Type A, white markers only)	
Glazed surface.....	7 max.
Body of marker.....	16 max.
f. Color (Type AY, yellow markers only)	
Purity.....	76% - 96%
Dominant Wavelength.....	579 to 585 mu
Total luminous reflectance (Y value x 100)	41 min
g. Autoclave resistance	Glaze shall not spall, craze or peel
h. Strength.....	1,500 lbs. min.
i. Water Absorption.....	2.0% max