ENNIS-FLINT
A Traffic Safety Solutions Company

SPECIFICATION FOR A ROUND NON- RETROREFLECTIVE PAVEMENT MARKER

GENERAL DESCRIPTION

Markers shall consist of a durable all-thermoplastic housing. The housing shall be of round diameter, domed and the dome shall terminate in a shoulder. Available colors are white and yellow.

DETAILED SPECIFICATIONS

1. DESIGN AND FABRICATION

A. Dimensions and Construction Details

diameter of unit shall be 9.8-10.3 cm (3.85-4.05 inches)
dome peak height shall be 1.65-2 cm (0.65-0.78 inches)
shoulders shall be squared or rounded and be 20-55 mm (0.08-0.22 inches) high

B. Material

The marker shall be comprised of materials with adequate chemical, water and UV resisitance for the intended use.

C. Surface

The buttons outer dome surface shall be smooth except for purposes of identification. The bottom of markers shall have areas of integrally formed protrusions or indentations, which will increase the effective bonding surface area of adhesive. The bottom surface of the marker shall not deviate more than 1.5 mm from a flat surface. The base of the marker shall be substantially free from gloss and substances that may reduce its bond to adhesive.

D. Color

The white and yellow color of the button shall conform to the respective x and y color coordinate requirements of ASTM 6628, when tested according to the test method therein. The minimum reflectance (Y value) shall be 80.

2. PHYSICAL PROPERTIES

A. COMPRESSIVE STRENGTH REQUIREMENTS – ASTM D4280 Method

A random sample of three markers shall be selected for test purposes.

Condition markers at 23°±2°C (73.4°±3.6°F) for 4 h prior to testing.

In accordance with ASTM D 4280, position marker base down at the center of a 13 mm (0.5 in.) thick steel plate larger than the marker. Place a 9.5 mm (3/8 in.) thick Shore A 60 rubber pad larger than the marker atop the marker. Apply a load to the top of the marker through a 13 mm (0.5 in.) thick steel plate larger than the marker that is placed atop the rubber pad. Rate of loading shall be 2.5 mm (0.1 in.) per minute. Each marker shall withstand a load of 2727 kg (6000 lbs) without either breakage or significant deformation.

B. COMPRESSIVE STRENGTH REQUIREMENTS – 3 inch ring method

A random sample of three markers shall be selected for test purposes. Condition markers at 23°±2°C (73.4°±3.6°F) for 4 h prior to testing.

In accordance with CalTrans 669, center the marker on a 1 inch high steel ring that is 3 inches in internal diameter with a ¼ inch wall in a compression mtesting machine with a capacity of 5000 pounds at a rate of 0.2 inches per minute. Center a 1 inch diameter by 1 inch high steel plug above the marker. Apply load until the marker breaks. Minimum load shall be 2000 pounds or greater.

C. IMPACT RESISTANCE

A random sample of three markers shall be selected for test purposes.

Condition markers at 23°±2°C (73.4°±3.6°F) for 4 h prior to testing.

When tested in accordance with ASTM D2794 (Gardner Impact), the average of the three units shall be no breakage below 15 inch-pounds minimum.