IN-HOUSE PROCEDURE # _____

PROCEDURE FOR VERIFYING DENSITY MEASURE

Item:
Density Measure

Purpose:
This method provides instructions for determining the volume of a density measure and checking the planeness of the rim.

Inspection Equipment Required:
1. Scale readable to 0.1 lb. (45 g) or better
2. Thermometer readable to 1 °F (0.5 °C)
3. Glass Plate at least 1/4 in. (6 mm) thick and at least 1 in. (25 mm) larger than the diameter of the measure
4. Feeler Gauge 0.01 in. (0.25 mm)
5. Grease or Vaseline

Tolerance:
Equipment shall meet the dimensional tolerances specified in the applicable test method.

Procedure:
RIM PLANENESS
1. Place the glass plate on top of the measure. Attempt to slide the feeler gauge between the rim and the glass plate. If the feeler gauge can be inserted, then the rim must be ground until plane.

VOLUME
1. Determine the mass of the glass plate and measure.
2. Place a thin layer of grease on the measure rim to prevent leakage of water.
3. Fill the measure with room temperature water.
4. Cover the measure with the glass plate so that there are no bubbles or excess water remaining.
5. Dry the underside of the glass plate extending past the measure rim and the outside of the measure.
6. Determine the mass of the measure, glass plate and water.
7. Calculate the mass of water in the measuring bowl.
8. Remove the glass plate and measure the temperature of the water to the nearest 1 °F (0.5 °C).
9. Determine the density of the water at the recorded temperature to the nearest 0.001 lb/ft³ from the applicable chart in AASHTO T 19 or ASTM C29.
10. Calculate the volume of the measure to the nearest 0.001 ft³ (0.01 L).