

IN-HOUSE PROCEDURE # _____

PROCEDURE FOR VERIFYING FINE AGGREGATE ANGULARITY DEVICE

Item:

Funnel and Funnel Stand, Cylindrical Measure, Glass Plate, Square Spatula

Purpose:

This method provides instructions for verifying the critical dimensions of the apparatus and determining the volume of a cylindrical measure.

Inspection Equipment Required:

1. Ruler readable to 1 mm
2. Caliper readable to 0.1 mm
3. Straightedge
4. Protractor
5. Glass Plate (60 mm x 60 mm)
6. Grease or Vaseline

Tolerance:

Equipment shall meet the dimensional tolerances and volume specified in AASHTO T 304.

Procedure:

FUNNEL

1. Measure the inside diameter of the bottom opening of the funnel with the calipers to the nearest 0.1 mm.
2. Place the straight-edge against the bottom opening of the funnel. Align the protractor with the straight-edge and measure the slope angle of the funnel to the nearest one degree.
3. Measure the height of the funnel (sloped area) with the ruler or calipers to at least the nearest 1 mm.

FUNNEL STAND

1. Place the cylindrical measure into position. Place the straight-edge on the top of the cylindrical measure. Measure the distance from the bottom opening of the funnel to the bottom of the straight-edge.

VERIFYING CYLINDRICAL MEASURE DIMENSIONS

1. Measure the inside diameter of the cylindrical measure.
2. Measure the inside height of the cylinder.
3. Measure the thickness of the base plate.

VOLUME OF CYLINDER

1. Apply a light coat of grease to the top edge of the cylindrical measure.
2. Weigh the measure, grease, and glass plate.
3. Fill the measure with freshly boiled or deionized water at a temperature of 18 – 24 °C. Measure the temperature of the water.
4. Place the glass plate on the measure. Ensure that no air pockets remain.
5. Dry the outer surfaces of the measure and glass plate.
6. Measure the mass of the measure, glass plate, grease, and water.
7. Determine the density of the water at the measured temperature from Table 3 in AASHTO T 19.
8. Determine the volume of the cylindrical measure to the nearest 0.1 mL by dividing the mass of the water by the density of the water at the measured temperature.

SPATULA

1. Using the ruler, measure the length of the straight portion of the blade to the nearest 1 mm.
2. Using the ruler, measure the width of the blade to the nearest 1 mm.
3. Verify that the end is cut at a right angle to the blade.