FLORIDA DEPARTMENT OF TRANSPORTATION
State Materials Office
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Florida Method of Test
for
WEIGHT PER CUBIC FOOT OF POROUS CONCRETE

Designation: FM 5-530

1. SCOPE

1.1 This method covers determination of the weight per cubic foot of freshly mixed porous concrete.

2. APPARATUS

2.1 Balance - The balance shall conform to AASHTO M 231, Class G 100, accurate within 0.1 percent of the test load at any point within the range of use. The range of use shall be considered to extend from the weight of the measure empty to the weight of the measure plus its contents.

2.2 Tamper - A 2 x 2 in. and approximately 24 in. long, wood instrument (preferably non-absorptive).

2.3 Measure - A cylindrical metal measure, preferably provided with handles. It shall be watertight, with the top and bottom true and sufficiently rigid to retain its form under rough usage. The top rim shall be smooth and plane within 0.25 mm (0.01 in.) and shall be parallel to the bottom within 0.5 deg (Note 1). The capacity and dimensions of the measure shall conform to the limits in Table 1.

Note 1: The top rim is satisfactorily plane if a 0.25 mm (0.01 in.) feeler gauge cannot be inserted between the rim and piece of 6 mm (1/4 in.) or thicker plate glass laid over the measure. The top and bottom are satisfactorily parallel if the slope between pieces of plate glass in contact with the top and bottom does not exceed one percent in any direction.

2.4 Calibration Equipment - A piece of plate glass, preferably at least 1/4 in. (6.4 mm) thick and at least 1 in. (25 mm) larger than the diameter of the measure to be calibrated. A supply of water pump or chassis grease that can be placed on the rim of the container to prevent leakage.

3. CALIBRATION OF MEASURE

3.1 Calibrate the measure and determine the factor used to convert the mass in pounds contained in the measure to mass in pounds per cubic foot. Follow the procedure outlined in Section 8 of FM 1-T 019. Measures shall be recalibrated

at least once a year or whenever there is reason to question the accuracy of the calibration.

TABLE I

Dimensions of Measures, U.S. Customary System*

Capacity, Cu. Ft.	Inside Diam. In.	Inside Ht. In.	Minimum Thicknesses of metal, in. Bottom	Wall	Max.Nominal size of Aggregate,In.***
1/10	6.0 ± 0.1	6.1 ± 0.1	0.20	0.10	1/2

*The indicated size of container may be used to test aggregates of a maximum nominal size equal to or smaller than that listed.

**Nominal Maximum Size (of aggregate) - In specifications for, or description of aggregate, the smallest sieve opening through which the entire amount of the aggregate is permitted to pass.

Note: Specifications on aggregates usually stipulate a sieve opening through which all of the aggregate may, but need not, pass so that a stated maximum proportion of the aggregate may be retained on that sieve. A sieve opening so designated is the nominal maximum size of the aggregate.

***Based on sieves with square openings.

4. SAMPLE

4.1 Obtain the sample of freshly mixed porous concrete in accordance with FM T 141.

5. PROCEDURE

5.1 Place the porous concrete in the measure in two layers of approximately equal volume as described in the steps below.

5.2 Tamp each layer with 25 strokes of the tamper. Distribute the strokes uniformly over the cross section of the measure.

5.3 On completion of tamping the final layer, strike excess porous concrete off flush with top of measure by means of a screeding motion of the tamper.

5.4 After strike-off, clean all excess porous concrete from the exterior of the measure.

5.5 Weigh the measure and its contents to the nearest 0.1 percent and record.

6. CALCULATIONS

6.1 Unit Weight (Density), W, - Calculate the net mass of the concrete in pounds by subtracting the mass of the measure (empty container) from the gross mass (filled container). Calculate the mass per cubic foot by multiplying the net mass by the calibration factor for the measure used, determined according to Section 4 of FM 1-T 019.