Equipment Checklist

ASTM C-138 Density Unit Weight Yield and Air Content Gravimetric of Concrete

		P	F	N/A
Balance				
1.	A balance or scale accurate to 0.1 lb [45 g] or to within 0.3% of the test load whichever is greater at any point within the range of use.			
2.	The range of use shall be considered to extend from the mass of the measure empty to the mass of the measure plus its contents at 160 lb/ft^3 [2600 kg/m^3]			
Tamping Rod				
3.	A round, smooth, straight, steel rod with a $^5/_8$ inch [16 mm] ± $^1/_{16}$ in. [2 mm] diameter. The length of the tamping rod shall be at least 4 inches [100 mm] greater than the depth of the measure in which rodding is being performed, but not greater than 24 inches [600 mm] in overall length.			
4.	The rod shall have the tamping end or both ends rounded to a hemispherical tip of the same diameter as the rod.			
Internal Vibrator				
5.	Internal vibrators may have rigid or flexible shafts, preferably powered by electric motors. The frequency of vibration shall be at least 9000 vibrations per minute [150 Hz] while the vibrator is operating in the concrete. The outside diameter or the side dimension of the vibrating element shall be at least 0.75 in. [19 mm] and not greater than 1.50 in. [38 mm]. The combined length of the vibrator shaft and vibrating element shall exceed the depth of the section being vibrated by at least 3 in. [75 mm].			
Measure				
6.	A cylindrical container made of steel or other suitable metal			
7.	The minimum capacity of the measure shall conform to the nominal maximum size of coarse aggregate in the concrete to be tested.			
8.	All measures except for measuring bowls of air meters which are also used for ASTM C-138 tests shall conform to the requirements of ASTM C-29.			
9.	When measuring bowls of air meters are used, they shall conform to the requirements of ASTM C-231 and shall be calibrated for volume as described in ASTM C-29.			
10.	The top rim of the air meter bowls shall be smooth and plane within 0.01 in. [0.3 mm].			
Strike-Off Plate				
11.	A flat rectangular metal plate at least 1⁄4 in. [6 mm] thick or a glass or acrylic plate at least 1⁄2 in. [12 mm] thick with a length and width at least 2 in. [50 mm] greater than the diameter of the measure with which it is to be used.			
12.	The edges of the plate shall be straight and smooth within a tolerance of 1⁄16 in. [2 mm].			
Mallet				
13.	A mallet with a rubber or rawhide head having a mass of 1.25 ± 0.50 lb. [600 ± 200 g] for use with measures of 0.5 ft^3 [14 L] or smaller and a mallet having a mass of 2.25 ± 0.50 lb [1000 ± 200 g] for use with measures larger than 0.5 ft^3 [14 L].			
Scoop				
14.	Of a size large enough so each amount of concrete obtained from the sampling receptacle is representative and small enough so it is not spilled during placement in the measure.			

Remarks:

Date: _____ Technician: _____ IA Observer: _____

Technician's E-mail Address: _____

Employer's/Supervisor's E-mail Address: _____