



Performance Examination - Aggregate

Standard Test Method for Surface Moisture in Fine Aggregate (ASTM C70-13)

Candidate Name: _____ **NICET ID:** _____

Apparatus	Trial 1	Trial 2
Balance the capacity of 2 kg or more & sensitive to 0.5 g or less		
Flask Suitable container or flask (pycnometer, volumetric flask, graduated volumetric flask, or other suitable measuring device) glass or noncorrosive metal Volume to be 2 – 3 times the loose volume of a sample designed so can be filled to the mark, or volume of its contents read, within .05 ml or less		

Procedure	Trial 1	Trial 2
1. Surface water content determined either by mass or volume at temp. range 18 – 29 °C (65 – 85 °F)		
Determination by Mass		
1. Determine net weight of the container, in grams, filled to mark with only water		
2. Before placing the sample in a container, adjust water level so sample is sufficiently covered without going over original mark		
3. Put sample in container and remove entrapped air		
4. Fill container to original mark and calculate the amount of water displaced using the following formula: $M_d = M_c + M_s - M$ M_d = mass of water displaced by sample, g M_c = mass of container filled to mark with water, g M_s = mass of sample, g M = mass of container and sample, filled to mark with water, g		
Determination by Volume		
1. Measure volume of water, in ml, sufficient to cover sample and place in container		
2. Put sample in container and remove entrapped air		
3. Determine the combined volume of sample and water by direct reading when graduated flask is used		
4. Pycnometer or volumetric flask are equal to the combined volume of sample and water		
5. Calculate the amount of water displaced using the following formula: $V_s = V_2 - V_1$ V_s = volume of water displaced by the sample, ml V_2 = combined volume of sample and water, ml V_1 = total volume of water in flask or pycnometer required to cover sample and bring level up to known volume mark, ml		

Examiner Name: _____ **Examiner Signature:** _____ **Date:** _____



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Calculations	Trial 1	Trial 2
<p>Calculate percentage of surface moisture in terms of saturated surface-dry (SSD) fine aggregate using the following formula:</p> $P = [(M_d - V_d)/(M_s - M_d)] \times 100$ <p>P = surface moisture in terms of SSD fine aggregate, % V_d = mass of sample divided by bulk specific gravity of fine aggregate in SSD condition, determined by C128 M_d = mass of water displaced, g M_s = mass of sample, g</p>		
<p>Calculate the percentage of surface moisture in terms of dry aggregate if absorption is known as follows:</p> $P_d = P[1 + (P_a/100)]$ <p>P_d = surface moisture in terms of dry fine aggregate, % P_a = absorption of fine aggregate, %, determined by C128</p>		

First Attempt: Pass: _____ Fail: _____ Second Attempt: Pass: _____ Fail: _____

Exam Administration: Remote _____ In-Person _____

Comments:

Examiner Name: _____ Examiner Signature: _____ Date: _____