

Aggregate Laboratory Testing Technician
KT-6 Specific Gravity and Absorption of Aggregates
(Fine)
 Revised June 2023

Two attempts may be made by the applicant. The applicant may stop themselves once and not have that count as one of the two attempts. If the applicant stops voluntarily, draw a line at that point and note that the applicant stopped themselves then restart at the top of the next attempt.

Applicant: _____

CIT #: _____

Employer: _____

		1st Test		Stopped Test		Re-Test	
	Sample Preparation						
1.	<u>Select a portion of the aggregate by splitting or quartering. The portion selected should be of sufficient size to yield a sample weighing approximately 1,000 g all of which passes the No. 4 (4.75 mm) sieve and retained on the No. 100 (150 µm) sieve. (4.2.1.1.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
2.	<u>Screen the portion selected over the No. 4 (4.75 mm) sieve and discard all material retained on that sieve. (4.2.1.2.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
3.	<u>Wash the sample over the No.100 sieve to remove dust. (4.2.1.3.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
4.	<u>Dry the sample to a constant mass in the oven. (4.2.1.4.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
	Procedure						
5.	<u>Immerse the sample in water and stir vigorously. Soak for a period of 24 +/- 4 hours. (4.2.2.1.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
6.	<u>Place the saturated sample in a drying pan and allow to dry in air for a short time. Stir the sample regularly to ensure uniform drying. (4.2.2.2.1.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
7.	<u>Transfer the sample to another drying pan. (4.2.2.2.2.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL

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8.	Stir the sample regularly and transfer it frequently from pan to pan until SSD condition is reached as indicated by the absence of free moisture on the bottom of the pan. (4.2.2.2.4.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
9.	Determine the mass of the empty flask. Record the value as “F”.(4.2.2.2.5)	PASS	FAIL	PASS	FAIL	PASS	FAIL
10.	Immediately split out and weigh a sample of the SSD material weighing not less than 500 g. Record this value as “B” Place sample in flask. (4.2.2.3.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
11.	Fill the flask to a level slightly below the calibration mark with water at a temperature of 77 +/- 2°F (25 +/- 1°C). (4.2.2.4.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
12.	Rotate the flask in an inclined position to eliminate all air bubbles. Do not shake. Allow the flask to sit for several minutes then roll the flask again. Continue the process until there are no visible air bubbles present. (4.2.2.5.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
13.	Place the flask in the water bath until the temperature of the material inside the flask is the same as that of the water bath. (4.2.2.6.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
14.	Fill the flask to the calibrated mark, remove it from the water bath and wipe all moisture from the outside surface. (4.2.2.7.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
15.	Weigh the flask and its contents to the nearest 0.1 g. Record the value as “K”. (4.2.2.8.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
16.	<u>Remove the aggregate from the flask and dry to a constant mass in the oven at a temperature of 230 +/-9°F (110 +/-5°C).</u> (4.2.2.9.)	PASS	FAIL	PASS	FAIL	PASS	FAIL

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		1st Test		Stopped Test		Re-Test	
17.	<u>Cool the sample to room temperature and weigh. Record the value as "A".(4.2.2.10.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
Calculations							
18.	<u>Determine the mass of the flask filled to the calibration line with water at 77 °F (25 °C) and subtract the mass of the flask to determine the mass of water the flask will hold. Record this value as "C". This step need not be performed for every test but must be done a minimum of once every year. (4.2.2.11)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
19.	<u>Calculate the Bulk Specific Gravity, Saturated Surface-Dry, Apparent Specific Gravity and Absorption. (4.3.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL

Overall Score

Circle One

1st Test

PASS

FAIL

Stopped Test

PASS

FAIL

Re-Test

PASS

FAIL

Witness Examiner:

(First Try)

Signature

Date

Witness Examiner:

(Stopped Try)

Signature

Date

Witness Examiner:

(Re-Test)

Signature

Date