

Soils Field Testing Technician

KT-11 Moisture Tests (Gas Pressure Method)

Revised April 2025

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	
	Procedure						
1.	Using 20 g or 26 g tester, place three scoops of calcium carbide in the body of the moisture tester. (9.1.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
2.	Place two steel balls in the body of the tester with the calcium carbide (9.2.).	PASS	FAIL	PASS	FAIL	PASS	FAIL
3.	Weigh a sample of the exact mass specified by manufacturer of the instrument in the balance provided, and place the sample in the cap of the tester. (9.2.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
4.	With the vessel in a horizontal position, insert the cap in the vessel and seal unit tight, make sure no carbide comes into contact with the soil. (9.3.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
5.	Raise the moisture tester to a vertical position so that the soil in the cap will fall into the pressure vessel. (9.4.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
6.	Shake the instrument so that the lumps will be broken up to permit the calcium carbide to react with all available free moisture. (9.5.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
7.	Make sure instrument is shaken with a rotating motion. (9.5.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
8.	Shaking should continue for at least 60 seconds with granular soils and for up to 180 seconds for soils so as to permit complete reaction between the calcium and the free moisture. (Note: 9.5)	PASS	FAIL	PASS	FAIL	PASS	FAIL

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9.	When needle stops moving, read the dial while holding the instrument in a horizontal position at eye level. (9.6.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
10.	<u>Record the dial reading. (9.7.)</u>	PASS	FAIL	PASS	FAIL	PASS	FAIL
11.	With the cap pointed away from operator, slowly release the gas pressure. (9.8.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
12.	Empty the pressure vessel and examine the material for lumps. If sample is not completely pulverized, the test should be repeated using a new sample (9.8.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
13.	The percentage of moisture by dry mass of the soil may be determined from the conversion curve. (10.1)	PASS	FAIL	PASS	FAIL	PASS	FAIL
14.	<u>Record the dial reading to the nearest 0.1% and determine the percentage of moisture from the conversion chart. Report the percentage of moisture to the nearest whole percent. (11.1.)</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