Hardened Concrete Properties
KT-77 Method For Capping Cylindrical Concrete Specimens

Revised July 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	
	End Preparation						
1.	No point on either end of compressive test specimens shall protrude by more than 0.125 inches (3 mm) from a plane perpendicular to the axis of the specimen at the lowest point of the surface *prior to capping with sulfur*. If the end exceeds this limit, saw or grind the end of the specimen no more than the amount that is required to correct the condition. (Sec. 5.1, refers to KT-76.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
	Capping						
2.	Prepare sulfur mortar for use by heating to about 265°F (130°C). (Sec. 7.1.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
3.	Remove any excess moisture, oil, wax or other contaminants from the ends of the specimen prior to capping. (Sec. 7.2.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
4.	Check the capping plate and guide device to ensure it is warmed slightly. Oil capping plate lightly. (Sec. 7.3)	PASS	FAIL	PASS	FAIL	PASS	FAIL
5.	Stir the molten sulfur mortar immediately prior to capping. (Sec. 7.3.)	PASS	FAIL	PASS	FAIL	PASS	FAIL
6.	Pour the mortar onto the surface of the capping plate. Use sufficient material to cover the cylinder end after the sulfur mortar solidifies. (Sec. 7.3)	PASS	FAIL	PASS	FAIL	PASS	FAIL

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		1st Test		Stopped Test		Re-Test	
7.	Lift the cylinder above the plate and contact the cylinder sides with the guides. While keeping the cylinder sides in constant contact with the guides, slide the cylinder down the guides onto the capping plate. The cylinder end should continue to rest on the capping plate while maintaining positive contact with guides until the mortar has hardened. (Sec. 7.3)	PASS	FAIL	PASS	FAIL	PASS	FAIL
8.	The capped surfaces of the specimens shall not depart from perpendicular to the axis of the specimen by more than 0.5 degrees; i.e. 0.125 in in 12 in (3.2 mm in 305 mm), 0.070 in in 8 in (1.8 mm in 200mm). The surface of the cap shall not depart from plane by more than 0.002 in (0.05 mm). Caps should be about 0.125 in (3 mm) thick. (Sec. 7.4)	PASS	FAIL	PASS	FAIL	PASS	FAIL
9.	Tap the cap with a metal implement after hardening to check for hollow areas under the cap. Remove and replace any cap not meeting these requirements. (Sec. 7.4)	PASS	FAIL	PASS	FAIL	PASS	FAIL
10.	For specimens with compressive strengths up to 7000 psi (50MPa), caps shall be no more than 0.31 in (8 mm) thick at any point. For specimens with compressive strengths over 7000 psi (50MPa) but less than 8,000 psi (55 MPa), caps shall be no more than 0.20 in (5 mm) thick at any point. (Sec. 7.4)	PASS	FAIL	PASS	FAIL	PASS	FAIL
	Curing						
11.	**After Capping** Specimens shall be maintained in a moist condition consistent with the requirements for the type of specimen, cylinders or cores. (Sec. 7.2.)	PASS	FAIL	PASS	FAIL	PASS	FAIL

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Overall Score

Circle One

1st Test	Stopped Test	Re-Test
PASS	PASS	PASS
FAIL	FAIL	FAIL

Witness Examiner:

(First Try) _____ Signature _____ Date

Witness Examiner:

(Stopped Try) _____ Signature _____ Date

Witness Examiner:

(Re-Test) _____ Signature _____ Date