



Performance Examination - Concrete

Standard Practice for Use of Unbonded Caps in Determination of Compressive Strength of Hardened Cylindrical Concrete Specimens (ASTM C1231 / C1231M-15)

Candidate Name: _____ NICET ID: _____

Apparatus	Trial 1	Trial 2
Grinding or sawing equipment Equipment necessary to produce ends that conform to planeness requirements of ASTM C39 and C617. Pads shall be $\frac{1}{2} \pm \frac{1}{16}$ in. (13 ± 2 mm) thick and the diameter shall not be more than $\frac{1}{16}$ in. (2 mm) smaller than the inside diameter of the retaining ring. Pads shall be made from polychloroprene (neoprene) meeting the requirements of Classification D2000.		
Retainers A pair of metal fixtures made from steel and some aluminum alloys are acceptable. The height of the retaining ring shall be 1.0 ± 0.1 in. (25 ± 3 mm). The inside diameter of the retaining ring shall not be less than 102% or greater than 107% of the diameter of the cylinder. The thickness of the retaining ring shall be at least 0.47 in. (12 mm) for 6 in. (150 mm) diameter retainers and at least 0.35 in. (9 mm) for 4 in. (100 mm) diameter retainers. The surface of the base plate that contacts the bearing block of the testing machine shall be plane to within 0.002 in. (0.05 mm). The thickness of the base plate shall be at least 0.47 in. (12 mm) for 6 in. (150 mm) retainers and at least 0.3 in. (8 mm) for 4 in. (100 mm) retainers. The bearing surfaces of the retainers shall not have gouges, grooves, protrusions, or indentations greater than 0.010 in. (0.25 mm) deep or greater than 0.05 in ² (32 mm ²) in surface area.		

Procedures	Trial 1	Trial 2
1. Check the ends of the cylinder and verify that they do not depart from perpendicularity to the axis by more than 0.5 degrees.		
2. Check the ends of the cylinder for depressions greater than 0.20 in.		
3. Unbonded caps permitted on one or both ends of a cylinder.		
4. Replace pads that do not meet the dimensional requirements of $\frac{1}{2} \pm \frac{1}{16}$ -in.-thick and diameter shall not be more than $\frac{1}{16}$ in. smaller than the inside diameter of the retaining ring or exceed the reuse limits based on compressive strength.		
5. Complete the load application, testing, calculation and reporting of results by C39.		

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

Exam Administration: Remote _____ In-Person _____

Comments:

Examiner Name: _____ Examiner Signature: _____ Date: _____