



Performance Examination - Concrete

Standard Practice for Capping Cylindrical Concrete Specimens (AASHTO T 231-17) [ASTM C617 / C617M-15]

Candidate Name: _____ NICET ID: _____

Apparatus	Trial 1	Trial 2
<p>Capping Plates For neat cement caps and high strength gypsum paste caps shall be formed against a glass plate at least ¼ inch (6 mm) thick, a machined metal plate at least 0.45 inch (11 mm) thick, or a polished plate of granite or diabase at least 3 inch (75 mm) thick. Sulfur mortar caps shall be formed against similar metal or stone plates except that the recessed area which receives molten sulfur shall not be deeper than a ½ inch (12 mm).</p> <p>In all cases, plates shall be at least 1 inch (25 mm) greater in diameter than the test specimen and the working surfaces shall not depart from a plane by more than 0.002 inches (0.05 mm) in 6 inches (150 mm).</p> <p>The surface, when new, shall be free of gouges, grooves, or indentations beyond those caused by the finishing operation.</p> <p>Metal plates that have been in use shall be free of gouges, grooves, and indentations greater than 0.010 inches (0.25 mm) deep or greater than 0.05 in.² (30 mm²) in surface area.</p>		
<p>Alignment Devices Suitable alignment devices, such as guide bars or bull's-eye levels, shall be used in conjunction with capping plates to ensure that no single cap will depart from perpendicularity to the axis of a cylindrical specimen by more than 0.5°.</p> <p>The location of each bar concerning its plate must be such that no cap will be off- centered on a test specimen by more than 1/16 inch (2 mm).</p>		
<p>Pots for Sulfur Mortar Pots used for melting sulfur mortars shall be equipped with automatic temperature controls and shall be made of metal or lined with a material that is nonreactive with molten sulfur.</p> <p>Use sulfur melting pots in a hood to exhaust the fumes to outdoors.</p>		

Procedure	Trial 1	Trial 2
1. Prepare sulfur mortar by heating to a temperature between 265-290 °F (129-149 °C).		
2. Check to ensure that capping plate and device are warm.		
3. Inspect capping plate for gouges.		
4. Oil capping plate lightly.		
5. Stir the sulfur mortar immediately before pouring each cap.		
6. Check the end of the cylinder to ensure that it does not contain excess moisture.		
7. Form cap on the cylinder.		
8. Check cap for proper bond by tapping or rubbing with a light metal implement.		

Examiner Name: _____ Examiner Signature: _____ Date: _____



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Procedure (continued)	Trial 1	Trial 2
9. Check cap for planeness with a straight edge and feeler gauge.		
10. Protect capped specimen from drying by covering with a double layer of moist burlap or by returning to the moist room.		

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

Comments:

Examiner Name: _____ Examiner Signature: _____ Date: _____