

Equipment Checklist

ASTM C-39 Compressive Strength of Cylinder Specimens

		P	F	N/A
Testing Machine				
1.	The testing machine shall be of a type having sufficient capacity and capable of providing the rates of loading prescribed in 7.5.			
2.	Verify calibration of the testing machines in accordance with Practices E-4, within 13 months of last calibration.			
3.	Documentation of the calibration and maintenance of the testing machine shall be in accordance with Practice C1077.			
4.	The machine must be power operated and must apply the load continuously rather than intermittently, and without shock.			
5.	The testing machine shall be equipped with two steel bearing blocks with hardened faces, one of which is a spherically seated block that will bear on the upper surface of the specimen, and the other a solid block on which the specimen shall rest.			
6.	Bearing faces of the blocks shall have a minimum dimension at least 3% greater than the diameter of the specimen to be tested.			
7.	Except for the concentric circles, the bearing faces shall not depart from a plane by more than 0.001 inches [0.02 mm] in any 6 inches [150 mm] of blocks 6 inches [150 mm] in diameter or larger, or by more than 0.001 inches [0.02 mm] in the diameter of any smaller block. New blocks shall be manufactured within one half of this tolerance. When the diameter of the bearing face of the spherically seated block exceeds the diameter of the specimen by more than 0.5 inches [13 mm], concentric circles not more than 0.03 inches [0.8 mm] deep and not more than 0.04 inches [1 mm] wide shall be inscribed to facilitate proper centering.			
8.	The bottom bearing block is specified for the purpose of providing a readily machinable surface for maintenance of the specified surface conditions. The top and bottom surfaces shall be parallel to each other. If the testing machine is so designed that the platen itself is readily maintained in the specified surface condition, a bottom block is not required. Its least horizontal dimension shall be at least 3 % greater than the diameter of the specimen to be tested. Concentric circles as described in 5.2 are optional on the bottom block.			
9.	Final centering must be made with reference to the upper spherical block. When the lower bearing block is used to assist in centering the specimen, the center of the concentric rings, when provided, or the center of the block itself must be directly below the center of the spherical head. Provision shall be made on the platen of the machine to assure such a position.			
10.	The bottom bearing block shall be at least 1 inch [25 mm] thick when new and at least 0.9 inch [22.5 mm] thick after any resurfacing operations.			
11.	At least every six months, or as specified by the manufacturer of the testing machine, clean and lubricate the curved surfaces of the socket and of the spherical portion of the machine. The lubricant shall be a petroleum-type oil such as conventional motor oil or as specified by the manufacturer of the testing machine.			
12.	The movable portion of the bearing block shall be held closely in the spherical seat, but the design shall be such that the bearing face can be rotated freely and tilted at least 4° in any direction.			
13.	If the load of a compression machine used in concrete testing is registered on a dial, the dial shall be provided with a graduated scale that is readable to at least the nearest 0.1% of the full scale load, The dial shall be readable within 1% of the indicated load at any given load level within the loading range, In no case shall the loading range of a dial be considered to include loads below the value that is 100 times the smallest change of load that can be read on the scale, The scale shall be provided with a graduation line equal to zero and so numbered			
14.	If the testing machine load is indicated in digital form the numerical display must be large enough to be easily read, The numerical increment must be equal to or less than 0.10% of the full scale load of a given loading range, In no case shall the verified loading range include loads less than the minimum numerical increment multiplied by 100, Maximum load indicator			

	provided so that at all times will indicate within 1% system accuracy the maximum load applied to the specimen			
--	--	--	--	--

Remarks:

Date: _____ Technician: _____ IA Observer: _____

Technician's E-mail Address: _____

Employer's/Supervisor's E-mail Address: _____