

Product Name :
Compaction Factor Test for Concrete

Product Code :
ASTConcrete-0013



Description :

Compaction Factor Test for Concrete

Technical Specification :

Compaction factor test is the workability test for concrete conducted in laboratory. The compaction factor is the ratio of weights of partially compacted to fully compacted concrete. It was developed by Road Research Laboratory in United Kingdom and is used to determine the workability of concrete.

The compaction factor test is used for concrete which have low workability for which slump test is not suitable.

Apparatus

Compaction factor apparatus consists of trowels, hand scoop (15.2 cm long), a rod of steel or other suitable material (1.6 cm diameter, 61 cm long rounded at one end) and a balance.

Procedure for compaction factor test:

1. Take M20 grade concrete.
2. Prepare the mix with 1:1.5:3 by adding a required amount water as per Water cement ratio. Now mix the fresh concrete.

3. See that the Inner surfaces of conical hoppers should be free from moisture and apply grease to it. Close the trap door of the upper hopper.
4. Then measure the weight of the empty bottom cylinder and note it as W1
5. Fill the fresh concrete into the upper conical hopper using trowel without compacting it.
6. Nextly, trap door of an upper hopper is opened. Thus the concrete falls on the lower hopper.
7. Wait for 2-3 secs and check whether the entire concrete is fallen from the upper hopper to bottom hopper. If not, slight tamping is done until the whole concrete falls to the bottom hopper.
8. Now open the bottom hopper trap door, and entire concrete is fallen to the cylinder. Cut off the excess concrete on the top surface of a cylinder using the trowel.
9. Weight the cylinder with partially filled concrete as W2.
10. Then the cylinder is emptied, and the concrete sample is filled again by filling it in 3 layers each layer is compacted by giving 25 blows using the tamping rod. Now, the concrete inside the cylinder is fully compacted.
11. Measure the weight of cylinder with fully compacted concrete and note it as W3.



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