

D.14 CONCRETE SLUMP TEST

Testing the slump of the concrete that arrives on your job site is the only way you can assure that the concrete you ordered is the concrete you received, and that it is ready to place through the pump. Accordingly, we recommend that you slump test every truck that arrives on the job site and notify your supplier that you will be doing so. This practice will go a long way towards ensuring that your project is successful.

Slump Test Procedures

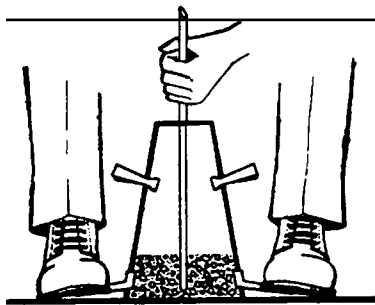
PURPOSE OF TEST: To determine the consistency of fresh concrete and to check its uniformity from batch to batch. This test is based on ASTM C 143-74: Standard Test Method for Slump of Portland Cement Concrete. Also refer to ASTM 172-71 Standard Method Sampling Fresh Concrete.

Take two or more representative samples—at regularly spaced intervals—from the middle of the mixer discharge; do not take samples from beginning or end of discharge. Obtain samples within 15 minutes or less.

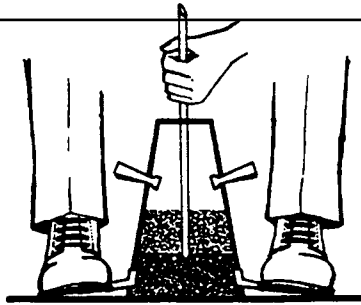
Important: Slump test must be made within 5 minutes after taking samples.

Combine samples in a wheelbarrow or appropriate container and remix before making test.

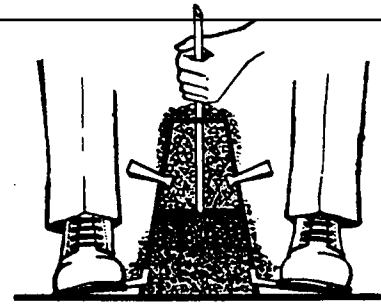
Dampen slump cone with water and place it on a flat, level, smooth, moist, nonabsorbent, firm surface.



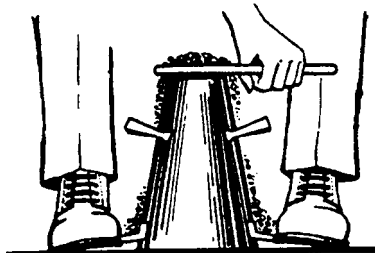
1. Stand on the two foot pieces of cone to hold it firmly in place during steps 1 through 4. Fill cone mold 1/3 by volume [2-5/8" (67mm) high] with the concrete sample and rod it with 25 strokes using a round, straight steel rod of 5/8" (16mm) diameter x 24" (600mm) long. Distribute rodding strokes evenly over entire cross section of the concrete by using approximately half the strokes near the perimeter (outer edge) and then progressing spirally toward the center.



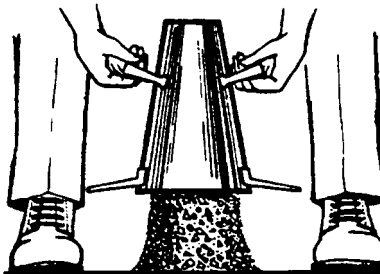
2. Fill cone 2/3 full by volume (half the height) and again rod 25 times with rod just penetrating into, but not through, the first layer. Distribute strokes evenly as described in Step 1.



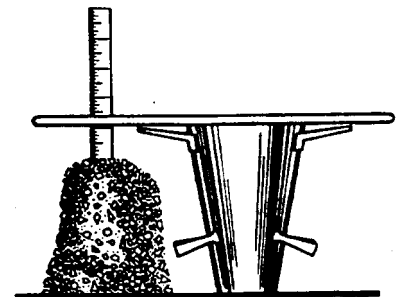
3. Fill cone to overflowing and again rod 25 times with rod just penetrating into, but not through, the second layer. Again, distribute strokes evenly.



4. Strike off excess concrete from top of cone with the steel rod so the cone is exactly level full. Clean the overflow away from the base of the cone mold.



5. Immediately after completion of Step 4, the operation of raising the mold shall be performed in 5 ± 2 sec. by a steady upward lift with no lateral or torsional motion being imparted to the concrete. The entire operation from the start of the filling through removal of the mold shall be carried out without interruption and shall be completed within the elapsed time of 2-1/2 minutes.



6. Place the steel rod horizontally across the inverted mold so the rod extends over the slumped concrete. Immediately measure the distance from bottom of the steel rod to the original center of the top of the specimen. This distance, to the nearest 1/4" (6mm), is the slump of the concrete. If a decided falling away or shearing off of concrete from one side or portion of the mass occurs, disregard the test and make a new test on another portion of the sample.