Curing of test specimen

Protection

Cover specimen with nonabsorptive, nonreactive plate or sheet of tough, durable and impervious plastic

Removal

Remove the specimens from molds **24±4** hrs. after casting

Environment

a) Unless otherwise specified, specimens shall be cured at **23±2^{0}C** from time to molding until the moment of test
b) Keep the specimens in water storage tank or in a moist room in accordance with **C511**
c) Water should be saturated with **$Ca(OH)_2$**
d) Avoid running water

ASTM	C 143

Standard test method for slump of hydraulic cement mortar

APPARATUS

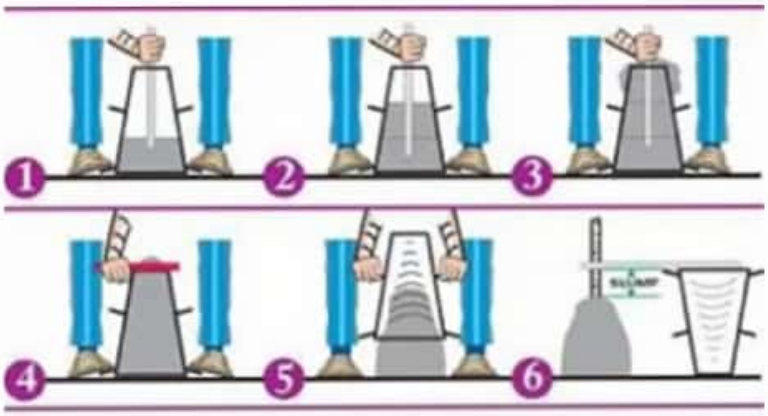
Mould

Metal mould shall not be thinner than **1.5** mm, lateral surface of frustum of cone at base is **200** mm in dia, the top 100 mm in dia, and the height shall be **300** mm

Tamping rod

Round, straight steel rod with 16 mm dia, 600 mm length, having the tamping end or both ends rounded to a hemispherical tip

Slump Test



PROCEDURE

a) Dampen the mould and place it on a flat, moist, non absorbent, rigid surface
b) It shall be held firmly while filling by operator standing on the two foot pieces
c) Immediately fill the mold in **3** layers
d) Rod each layer with **25** strokes uniformly
e) For bottom layer, incline the rod slightly and make half of the strokes near perimeter and then progressively with vertical strokes spirally toward the centre
f) Rod bottom layer for full depth
g) For second and top layer, rod just to penetrate into the underlying layer
h) Strike off the surface of the concrete by rolling motion of tamping rod

PROCEDURE

i) Remove the mold immediately by raising it in vertical direction

j) Raise a distance of 12" in 5±2 sec., by a steady upward lift with no lateral or torsional motion

k) Complete whole task from filling to removal of mold within 2½ min

l) Measure slump by determining the vertical distance between the top of mold and the displaced original centre of the top surface of the specimen

ASTM	C 39

Compressive strength of cylindrical concrete specimens

TESTING MACHINE

The machine must be power operated and must apply load continuously rather than intermittently and without shock

PROCEDURE

a) Compressive test shall be carried as soon as after the specimen is removed from the moist storage
b) Clean the blocks of testing machine and the test specimen
c) Place specimen on lower block
d) Carefully align the axis of specimen with the centre of thrust
e) Adjust the load indicator to zero
f) Apply load continuously without shock
g) Apply load until specimen fails
h) Record maximum load and type of failure

Table 13.1: Stress Calculation

Curing [days]	Sample No.	Load [N]	Area [mm^2]	Stress [MPa]	Average Stress [MPa]	Failure Photo
7	1	????	????	????	Stress = 0.9*Ave. to 1.1*Ave. Then Average or Not Averaged	????
7	2	????	????	????		????
7	3	????	????	????		????