



Standard Test Procedures Manual

Section: CONCRETE

Subject: SLUMP

1. SCOPE

1.1. Description of Test

This test method describes the procedure for determining the slump of fresh concrete mixtures.

2. APPARATUS AND MATERIALS

2.1. Equipment Required

Slump cone - a mold of 1.18 mm thick galvanized metal in the form of the lateral surface of the frustum of a cone with the base 200 mm in diameter, the top 100 mm in diameter and the height 300 mm. The base and the top shall be open and parallel to each other and at right angles to the axis of the cone. The mold shall be provided with a foot piece on each side for holding the mold in place, and with handles for lifting the mold from the sample.

Tamping Rod - a round, straight steel rod 16 mm in diameter and approximately 600 mm in length. The tamping end shall be a hemisphere 16 mm in diameter.

3. PROCEDURE

3.1. Sample Preparation

The sample of concrete from which test specimens are made must be representative of the entire batch. It shall be obtained in accordance with STP 106.

3.2. Test Procedure

Dampen the mold and place it on a flat, moist, non-absorbent rigid surface.

Hold firmly in place by standing on the two foot pieces.

Fill the cone 1/3 full and uniformly rod the layer 25 times to its full depth.

Fill the cone with a second layer until 2/3 full by volume and rod 25 times uniformly, ensuring that the rod just penetrates into the first layer.

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Overfill the cone with the third layer and rod uniformly, 25 times, with the rod just penetrating into the second layer.

Strike off the excess concrete level with the top of the cone by a screening and rolling motion of the tamping rod.

Remove any spilled concrete from around the bottom of the cone.

Immediately remove the mold from the concrete by raising it carefully in a vertical direction without lateral or torsional motion.

Measure the difference between the height of the mold and the height of the specimen at its highest point to the nearest 6.3 mm. This distance will be the slump of the concrete.

4. **RESULTS AND CALCULATIONS**

4.1. **Reporting Results**

The slump in mm will be reported.

5. **ADDED INFORMATION**

5.1. **References**

ASTM Method C143
CAN3-A23.2-M77

5.2. **General**

When practicable, duplicate slump tests should be made and the average of the two slumps reported.

The concrete temperature at time of testing should also be reported.

The entire operation from the start of the filling to the removal of the mold should be carried out without interruption and be completed within an elapsed time of 1.5 minutes.

Run at least one test for every two truck loads.

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STP 207-3

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APPROVAL SHEET

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Format of test procedure updated.

Review/Implementation Process:
Reviewed by the Materials Section of the Technical Standards and Policies
Branch.

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Nil

Follow Up/Training Required:
Nil

Comments/Concerns/Implications (Budget/Environment/Stakeholders):

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Approval Recommended by R.A. Widger - -
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Approval Recommended by A.R. Gerbrandt - -
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Approved by D.G. Metz - -
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Electronic File Updated - -
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