

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

for

METHODS OF SAMPLING AND TESTING MORTAR FOR
MASONRY CONSTRUCTION

AS 2701.6
METHOD FOR DETERMINATION OF
CONSISTENCY—CONE IMPRESSION TEST

1 SCOPE. This standard sets out the method for determining the consistency of mortar using cone impression apparatus.

2 REFERENCED DOCUMENTS. The following standards are referred to in this standard:

AS 2701 Method of Sampling and Testing Mortar for Masonry Construction
 Part 2 — Methods of Sampling
 Part 3 — Method of Preparation of Fresh Mortar for Testing
 Part 5 — Method for Determination of Consistency—Slump Test.

3 PRINCIPLE. A smooth metal cone is allowed to sink into mortar and the depth of impression is measured after a specified time interval.

NOTE: The impression made by the dropping cone can be measured only on thin fluid mortars. If the depth of the impression is less than 40 mm, the results are not reliable, and the determination of slump in accordance with AS 2701.5 is preferable.

4 APPARATUS. The following apparatus is required:

- (a) *Cone* (see Fig. 1). A smooth metal cone weighing 300 ± 2 g, including the handle; diameter of the cone at its base is 75 mm; height 145 mm plus 100 mm for the handle. There shall be a marked scale on the side of the cone, measuring vertical distance from the apex.
- (b) *Container*. A rigid, waterproof, smooth-sided container of minimum dimensions 150 mm diameter and 150 mm height.
- (c) *Tamper*. A metal bar about 180 mm long and 10 mm square in cross-section.

5 PREPARATION OF SAMPLE. Mortar shall be prepared as follows:

- (a) For laboratory preparation—in accordance with AS 2701.3.
- (b) For sampling and testing in field—in accordance with AS 2701.2, Clause 3, with mixing by hand-held trowel to ensure a uniform sample.
- (c) For sampling in field and testing in laboratory—in accordance with AS 2701.2, and AS 2701.3, Clauses 5 and 6, as appropriate.

6 PROCEDURE. This procedure shall be carried out within 30 min of the preparation of the samples (see Clause 5).

The procedure shall be as follows:

- (a) Place fresh mortar in the container to within 10 mm of its top.
- (b) With the tamper, tamp the mortar 25 times, and then drop or tap the container five or six times in order to expel air and to level off the surface of the mortar.
- (c) Hold the cone by its handle with the apex of the cone just touching the mortar. Release the cone and allow it to sink into the mortar. After 10 s, read and record to the nearest 5 mm, the depth of the impression made by the cone from the scale on its side.
- (d) Repeat steps (b) and (c).
- (e) Average and record the readings taken in step (c). This value is the impression.

7 REPORTING OF RESULTS. The following information shall be reported:

- (a) Date, time and location of sampling or manufacture of mortar.
- (b) Type of mortar by composition or other description.