STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS OF SAMPLING AND TESTING MORTAR FOR MASONRY CONSTRUCTION

AS 2701.3
METHOD FOR PREPARATION OF FRESH MORTAR FOR TESTING

1 SCOPE. This standard sets out the method for preparing fresh mortar for testing from samples taken in the laboratory or elsewhere.

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

AS 1152 Test Sieves.

3 APPARATUS. The following apparatus is required:

(a) *Mixing machine.* The mixer shall be electrically driven (a typical form is shown in Fig. 1) and shall consist essentially of the following items:

(i) A mixing bowl with a nominal capacity of 5 L or 10 L of the shape shown in Fig. 2, and provided with means by which it can be securely fixed to the mixing frame during mixing.

(ii) A mixer blade of the form shown in Fig. 3, revolving about its axis as it is driven in a planetary movement around the bowl by an electric motor. The two directions of rotation shall be opposite.

The mixer shall operate at the following speeds:

A. Blade revolving about its own axis: 140 ± 5 r/m.
B. Planetary movement: 62 ± 5 r/m.

A nominal 5-litre bowl and matching blade shall be used when not less than 3 kg and not more than 4 kg of solid materials is to be mixed.

A nominal l0-litre bowl and matching blade shall be used when more than 4 kg but not more than 6 kg of solid materials is to be mixed.

NOTE: An example of a suitable mixer is the standard Hobart Manufacturing Co. Pty Ltd mixer when used at the slow speed setting.

(b) *Rubber or plastics scraper.*

(c) *Spatula.* A suitable flexible laboratory spatula.

(d) *Test sieves.* All test sieves used shall comply with AS 1152.

(e) *Water.* Water used for mixing mortar samples shall be of potable quality.

(f) *Thermometer.* The thermometer shall be accurate to within 1°C.

4 MIXING PROCEDURE FOR SAMPLES TAKEN IN THE LABORATORY. Samples of laboratory mortar shall be mixed in accordance with the following procedure:

(a) Ensure the laboratory temperature is in the range of 23 ±5°C.

(b) Bring all materials to a temperature of 23 ±5°C.

(c) Measure the required quantities of materials, and select a mixing bowl of appropriate size.

(d) Place the dry materials in the bowl and blend. Where lime putty is being used, place it in the bowl first and add sand while mixing. Continue mixing of dry materials for 30 s after all mortars are in the bowl, or longer if necessary, to ensure it is fully blended.

NOTE: Where a powdered admixture is used, it will be necessary to premix it with one of the dry materials for several minutes or dissolve it to ensure adequate dispersion.

(e) Pour the water, plus any liquid admixtures already mixed or solid admixtures which have been already dissolved, into the bowl at a uniform rate over the next 30 s while mixing. Continue the mixing for 60 s after all the liquid has been added.