

# Australian/New Zealand Standard®

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## Methods of testing sheet roof and wall cladding

### Method 5: Resistance to impact (sandbag) for wall boards

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#### METHOD

**1 SCOPE** This Standard sets out a method of test intended to simulate the impact of a heavy soft body upon a wall clad with either Type A or Type B cladding.

NOTE: Type A and Type B cladding is defined in AS/NZS 4256.4.

**2 REFERENCED DOCUMENTS** The following documents are referred to in this Standard:

AS

3567 Textiles — Cloth, duck — Cotton and polyester/cotton

AS/NZS

4256 Plastic roof and wall cladding materials

4256.4 Part 4: Unplasticized polyvinyl chloride (uPVC) wall cladding boards

**3 PRINCIPLE** A fabric bag filled with 25 kg of sand is impacted upon a model of a wall placed horizontally on a concrete pad. The sandbag simulates the impact of a human body.

**4 APPARATUS** The following apparatus is required:

**4.1 Sandbag** A bag made from polyester/cotton core-spun duck complying with the requirements for Grade CS 420 (420 g/m<sup>2</sup>) of AS 3567. The sandbag shall have the following properties:

- (a) Cylindrical shape of diameter, 300 ±50 mm and height, 700 mm with stitching on the inside.
- (b) One end stitched to a circular base and the open end fitted with a hem and cord so that it can be drawn closed.
- (c) Filled with dry sand to provide a mass of 25 kg.
- (d) Rope attached to the top.

**4.2 Pulley** A pulley attached to a suitable support, so that the bag may be raised 1.0 m above the test specimen, using a rope to which the cord of the sandbag is tied.

**4.3 Measuring stick** A measuring stick of 1.0 ±0.01 m used to check the height of drop from the top of the test specimen to the bottom of the sandbag.

**5 TEST SPECIMEN** The test specimen shall constitute a framework simulating four timber wall studs and end plates. Studs shall be at 450 mm or 600 mm centres as specified by the cladding manufacturer and long enough to accommodate at least six cladding boards. End plates shall be nailed to the ends of the wall studs to complete the

rectangular frame. Cladding shall be fixed to the full frame according to the type of cladding being tested and as specified by the cladding manufacturer.

Where insulation forms a normal part of the installation, this shall be installed according to the manufacturer's installation instructions.

**6 PROCEDURE** The procedure shall be as follows:

- (a) Roll the sandbag to loosen the sand before each test.
- (b) Place the wall model on the concrete floor.
- (c) Suspend the sandbag from the rope so that the bottom of the sandbag is 1.0 m above the model.
- (d) Align the model so that the sandbag will strike the line of interlock between the third and fourth cladding strip and directly over the second or third stud of the frame (see Figure 1, impact points A).
- (e) Release the sandbag and allow it to strike the test specimen.
- (f) If the cladding passes this test, realign the test specimen so that the sandbag will strike midway between the two centre studs, and repeat the test (see Figure 1, impact point B).

**7 REPORT** The test report shall contain the following:

- (a) Type and profile of uPVC cladding.
- (b) Method of fixing the test specimen, stud spacing and type of supporting framework.
- (c) Whether the sandbag damaged, deformed or dislodged the cladding or caused the cladding to disengage.
- (d) Reference to this test method, i.e., AS/NZS 4040.5.