

STANDARDS ASSOCIATION OF AUSTRALIA

**Australian Standard
METHODS OF TEST FOR TEXTILE
FLOOR COVERINGS**

**AS 2111.2
DETERMINATION OF THICKNESS LOSS UNDER
DYNAMIC LOADING OF TEXTILE
FLOOR COVERINGS**

1 SCOPE. This standard describes the procedure for determining the thickness loss of textile floor coverings under dynamic loading.

2 APPLICATION. The method is applicable to all types of textile floor coverings with a surface that is level in height and construction.

It is not applicable to other textile floor coverings unless the areas of different thickness or construction can be tested separately.

3 DEFINITIONS. For the purposes of this standard the following definitions apply:

Thickness (of a textile floor covering)—the distance between a reference plate on which the specimen rests and a parallel presser-foot applying a given pressure to the specimen. Ordinarily the thickness of a textile floor covering is measured under the standard pressure of 2.0 kPa applied to a circle of area between 300 and 1000 mm² within a larger area.

Thickness loss (of a textile floor covering under dynamic loading)—the difference between the thickness of the textile floor covering measured under the standard pressure, before and after it has received a stated number of standard impacts.

4 PRINCIPLE. The specimen is subjected to a cyclic-loading treatment in which an impact assembly, with two steel feet on its underside, repeatedly drops freely on to the specimen. At the same time the specimen is slowly traversed.

The thickness of the specimen is measured, before and after treatment, by the procedure described in AS 2111.1.*

5 APPARATUS. The following apparatus is required:

(a) *Dynamic-loading machine*, complying with the general principles shown in Fig. 1 and meeting the following requirements:

An impact assembly (A) has a plate with two steel feet of rectangular cross-section attached to its underside. The cam (B) is shaped such that a cantilever (F) pivoting at D firstly raises the impact assembly and then allows it to fall freely in the guides from a height of 63.5 mm on to the specimen approximately 14 times per minute. Each fall of the impact assembly corresponds to one impact.

The specimen is clamped to a steel plate (C) 150 mm long and 125 mm wide, by means of two steel bars, 150 mm long and 20 mm wide at the sides, screwed at the ends of the baseplate.

The baseplate is slowly traversed in such a way that there is 3.2 mm movement for each drop of the impact assembly and the return traverse is 1.6 mm out of step with the forward traverse. A complete cycle (one forward traverse and one reverse traverse) is made for a total of 25 impacts to give a total compressed area 50 mm wide by about 90 mm long, which may have a ridge across the centre.

Total mass of impact assembly 1280 ± 15 g

Size of each foot on impact assembly—

- width 6.3 mm
- length 51 mm
- depth 9.5 mm

Inside distance between feet 38.1 mm

Height of drop to steel plate 63.5 mm

Frequency 14 ± 1 impacts per minute

A device to count the impacts is necessary.

NOTE: Before the instrument is used, check the vertical alignment of the guides and ensure that the impact assembly falls freely.

(b) *Thickness tester*, as specified in AS 2111.1, capable of measuring the thickness of the specimen under a pressure of 2.00 kPa to an accuracy of 0.05 mm while the specimen is clamped to the steel plate.

(c) *Circular guard ring*, having a mass of approximately 1 kg, and external diameter not greater than 125 mm and internal diameter not more than 40 mm larger than the diameter of the presser-foot. The guard ring shall exert a pressure of 1.0 ± 0.1 kPa. When placed on the specimen a throat or slot 40 mm wide may be cut in the periphery of the ring to facilitate placing it in position.

NOTE: The guard ring is required only for the testing of materials without pile, made from consolidated materials which may tend to lift at the edges when a load is applied in the centre.

*AS 2111.1, Determination of Thickness of Textile Floor Coverings.

