Superseded by AS 2282.9-1991

STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS FOR TESTING FLEXIBLE CELLULAR POLYURETHANE

AS 2282.9
DETERMINATION OF COMPRESSION SET OF FLEXIBLE CELLULAR POLYURETHANE*

1 SCOPE. This standard sets out three methods for determining the compression set of flexible cellular materials.

At present it applies only to latex and polyurethane foams greater than 2 mm in thickness. Tests for other materials will be added to the standard as required.

2 PRINCIPLE. A test piece is maintained for a specified time at a specified temperature under constant deflection and the effect on the thickness of the released test piece is noted.

3 DEFINITION. For the purpose of this standard, the following definition applies:

Compression set—the difference between the initial thickness and final thickness of a test piece of the cellular material after compression for a given time at a given temperature and after a given recovery time, this difference being referred to the initial thickness.

4 APPARATUS. The following apparatus is required:

(a) Compression device, consisting of two flat plates having dimensions larger than those of the test pieces, with spacers and clamps such that the plates are held parallel to each other and the space between the plates is adjustable to the required deflected height.

(b) For testing thin materials, a requisite number of square photographic glass mounting slides. The thickness of the slides shall be between 1 mm and 1.5 mm and the length of side shall be between 50 mm and 55 mm.

(c) Means of measuring the dimensions of the test piece in accordance with AS 2282.2.

5 TEST PIECES.

5.1 General. Test pieces shall have parallel top and bottom surfaces and essentially vertical sides. They shall be 50 ± 1 mm long, 50 ± 1 mm wide and 25 ± 1 mm thick. All test pieces shall be free from any contamination and skin on the vertical sides.

5.2 Thin Materials. When thin materials are to be tested, sufficient test pieces 50 mm × 50 mm shall be taken so that the sum of their thicknesses before compression is at least 25 mm. The test pieces shall be plied together and interleaved with the photographic mounting slides where the number of plies is greater than two, and the complete assembly shall be treated during the test as a single thick test piece.

5.3 Number of Test Pieces. Five 25 mm thick test pieces, or five assemblies in the case of thin materials, shall be tested.

*This method is technically identical with ISO 1856—1972.