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STANDARDS ASSOCIATION OF AUSTRALIA

Australian Standard

METHODS FOR TESTING FLEXIBLE CELLULAR POLYURETHANE

AS 2282.2
MEASUREMENT OF DIMENSIONS OF TEST PIECES OF FLEXIBLE CELLULAR POLYURETHANE*

1 SCOPE. This standard sets out three methods for the measurement of test piece dimensions of flexible cellular polyurethane. An accurate measurement of the thickness is the basis for accurate values of various properties of cellular materials such as density, tensile strength, tear resistance and compression set.

The method of measurement should be chosen on the basis of the dimensions of the test piece and the accuracy required. In practice it is possible to classify these methods of measurement, on the basis of the dimension to be measured, into three categories, viz Methods A, B and C. Other methods based on Methods A and B may be used, as described in Appendix A.

Pressure from the measuring instrument will have an influence on the measurement of the thickness of soft flexible materials. Therefore it is necessary to specify the pressure for accurate comparative measurements in the laboratory as described in Method A (Clause 2).

2 METHOD A—REFERENCE METHOD, PARTICULARLY APPLICABLE TO DIMENSIONS LESS THAN 30 mm. The dimension should be measured by means of a gauge having a circular foot 6.5 cm^2 to 8.0 cm^2 in area and capable of exerting a pressure of 100 ± 10 N/m^2. The gauge should read to the nearest 0.02 mm. It is desirable to mount the measuring device on a solid plane baseplate.

The circular foot of the device should not extend over the edge of the test piece area. The median of three readings at each position should be taken.

NOTE: Appendix B describes suitable apparatus for Method A.

3 METHOD B—FOR DIMENSIONS OVER 30 mm. The dimension may be measured by means of vernier callipers reading to an accuracy of 0.25 mm. Each measurement should be taken along a line perpendicular to the opposing faces of the test piece. The previously set calliper gauge should be presented to the test piece, which is supported so that the dimension to be measured is not strained. The correct setting should be the one when the measuring faces of the gauge contact the surfaces of the test piece without compressing it.

The median of three readings at each position should be taken.

4 METHOD C—FOR DIMENSIONS OVER 100 mm. The dimension should be measured by means of a rule or tape to an accuracy of 1 mm. Each measurement should be taken along a line perpendicular to the opposing faces of the piece.

The median of three readings at each position should be taken.

*This method is technically identical with ISO/R 1794—1971.