Australian Standard™

Methods of testing flexible cellular polyurethane

Method 8: Determination of force deflection

PREFACE

This Standard was prepared by the Standards Australia Committee PL/36, Flexible Polyurethane to supersede AS 2282.8—1991.

The magnitude of the force required to deform cellular polyurethane is an indication of the hardness or deformation resistance of that material. This may be determined either by measuring the force required to deflect the test piece by a stated percentage of its original thickness using a circular indentor, or by measuring the force required to compress the whole area of a test piece by a stated percentage of its original thickness.

In the comparison of the indentation characteristics of different cellular polyurethanes, the results will be inconsistent if test pieces of the same size and thickness are not used.

METHOD

1 SCOPE This Standard sets out two methods for determining the deflection force of flexible cellular polyurethane. Method A provides the indentation force on deflection and Method B gives the compression force on deflection.

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

AS
2282 Methods for testing flexible cellular polyurethane
2282.1 Method 1: Sampling and conditioning of test specimens

3 TESTS

3.1 Method A—Indentation force on deflection test

3.1.1 *Principle* The force required to indent a test piece to a stated percentage of its original thickness is determined by a suitable compression testing machine using a circular flat indentor.

3.1.2 *Apparatus* The following apparatus is required:

(a) A testing machine, capable of indenting the test piece by means of an indentor or baseplate moving vertically at a uniform rate of 25 mm/min to 380 mm/min, having a means of measuring the force required to produce the specified indentation within an error of ±1 percent, or ±1 N, whichever is the greater.