

INDENTATION HARDNESS TEST FOR POLYURETHANE FOAMED PARTS**Application**

This procedure is used to determine the indentation hardness values of polyurethane foam used in the construction of arm rests and interior safety padding, etc., or for polyurethane foam parts with integral skin.

Apparatus Required**Foam Deflection Tester**

A mechanical deflection testing machine, capable of applying a load at a speed of 50 mm per minute and equipped with means of measuring depth of indentation.

Test Fixture

This fixture must simulate the mounted assembly position of the test specimen in a vehicle. The fixture must be adjustable to allow the test specimen to be fixed normal to the indenter foot.

Indenter Foot

Two circular indenter feet are required 200 mm² and 1000 mm² in area respectively, with a chamfer of radius 1 mm. The indenter foot size used, to be as required by the relevant engineering specification.

Conditioning and Test Conditions

All test values indicated herein are based on material conditioned in a controlled atmosphere of 23 +/- 2 °C and 50 +/- 5 % relative humidity for not less than 24 h prior to testing and tested under the same conditions unless otherwise specified.

Procedure

1. Condition the test specimen for 24 hours at 20 +/- 2 °C and a relative humidity of 65 +/- 3 %. The indentation test is to be carried out under these same temperature and humidity conditions.
2. Mount the test specimen on the test fixture and adjust it so that it is normal to the indenter foot.

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2001 03 27	Revised	Editorial – no technical change A. Cockman
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3. Bring the indenter foot into contact with the test specimen. Apply a preload of 1 kg and set the depth indicator gauge to zero.
4. Deflect the test specimen at a rate of 50 mm/minute (or as specified in the engineering specification) to the indentation depth required by the relevant engineering specification.

Evaluation

Immediately read and record the load (kg) necessary to produce the required indentation depth.

Chemicals, materials, parts, and equipment referenced in this document must be used and handled properly. Each party is responsible for determining proper use and handling in its facilities.