

INDENTATION TEST FOR FLEXIBLE POLYURETHANE FOAM**Application**

This procedure is used to measure the load necessary to produce a specified indentation in polyurethane foam (slab and/or molded) used for seat padding applications.

Apparatus Required**Indenter**

An apparatus having a flat circular indenter foot 50 square inches in area, connected to a load measuring device, and mounted in such a manner that the specimen can be deflected at a specified rate is required for this test. The apparatus shall be arranged to support the specimen on a level horizontal plate which is perforated with 0.25 inch holes on 0.75 inch centers to allow for rapid escape of air during the test.

Test Specimens

Complete assemblies of slab and molded polyurethane foam shall be utilized for the test.

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 all test specimens for 24 h at 72 +/- 5 °F and a relative humidity of 50 +/- 2 %.
2. Place the test specimen on the supporting plate of the indenter. The specimen position shall be such that the indentation will be made in the area shown on the Engineering drawing.
3. Bring the indenter foot into contact with the test specimen, apply a preload of 1 lb and determine the height of the test specimen.

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2000 11 09	Revised	Editorial – no technical change A. Cockman
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4. The specimen shall then be twice deflected 75 +/- 5 % of the original height, using either rollers or plates as a means of obtaining the deflection. The specimen shall then be allowed to rest for a period of 10 +/- 5 minutes.
5. Indent the specimen 25 % of the recorded height. After 1 minute (during which time the load is permitted to drift while the dial indicator is maintained at precisely 25 % deflection) read and record the load. Advance the indenter foot to 50 % of the recorded height, allow the load to drift while maintaining the 50 % deflection for 1 minute, and read and record the load.
6. Report the load required to deflect the test specimen at 25 and 50 % deflection. The 1 lb preload is part of the final load and should not be deducted from the final load value.

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.