

INDENTATION TEST FOR CRASH PADS**Application**

This procedure is used to determine the relative recovery of polyurethane crash pads from indentation.

Apparatus Required**Compression Fixture**

A small press with a vertically driven spindle or ram and a base to support the test sample is required. A drill press may be conveniently adapted for this test. A flat is ground on a 50 mm diameter steel ball bearing and the bearing tack-welded or otherwise joined to a metal plate and attached to the ram or spindle of the compression machine. This apparatus is used to make the indentation in the crash pad. The spindle or ram does not rotate during this test.

Crash Pad Support Form

A wooden form 200 mm wide and covered with sheet steel is used to support the test specimen. The finished contours of this form shall be identical to the shape of the underside of the crash pad used in the test. The form should duplicate a 200 mm section of the dash which presents a smooth surface free from any depressions, cut-outs or raised portions. Scribe a line on the side of the metal covered support form 24 mm in from the apex as shown in the attached sketch. Make thickness measurements and indentation tests above this line.

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. Cut a section from the sample crash pad 200 mm wide and at right angles to the longest dimension of the crash pad. This section shall be cut from a portion of the covered pad where there are no depressions, cut-outs or raised portions.

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2. Place the 200 mm section of the crash pad on the support form so that the contours match and are flush.
3. Hold the pad on the form with sufficient finger pressure to make the sample flush with the support. At a point directly above the vertical line on the support form (see sketch), measure the thickness of the crash pad.
4. Depress the steel ball into the crash pad so that it is compressed 50 percent of its original measured thickness and release. The entire operation shall consume 10 s and be performed at a uniform rate. The center of the steel ball shall indent the pad at a point measured 24 mm in from the apex of the support form.
5. Observe and report any failure of the crash pad to fully recover within the time required by the relevant Engineering Materials Specification.

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.