



Designation: D 5672 – 9503

Standard Test Method for Testing Flexible Cellular Materials Measurement of Indentation Force Deflection Using a 25-mm (1-in.) [1-in.] Deflection Technique¹

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1. Scope*

1.1 This test method covers a screening type quality control test used to determine if flexible polyurethane foam cushions are within the specified grade range for firmness.

1.2 This test method is limited to foams with thicknesses that are 75 mm (3 in.) [3 in.] or greater.

1.3 This test method is based on the fact that the traditional industry standard thickness for Indentation Force Deflection (IFD) is 100 mm (4 in.) [4 in.], and the traditional percent deflection for IFD acceptance and product planning is 25 %. With respect then to these traditional industry conventions, a 25 % deflection on a 100-mm (4 in.) [4 in.] cushion would be 25 mm (1 in.) [1 in.]. Thus, deflecting proper thickness cushions 25 mm (1 in.) [1 in.] will determine if the flexible polyurethane foam is within the specified grade range for 25 % IFD.

1.4 Cushion thicknesses less than 75 mm (3 in.) [3 in.] shall not be tested for IFD using this test method.

1.5 This test method is intended to provide a quick and simple method to screen flexible polyurethane foams for determination of its firmness grade.

1.6 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

NOTE 1—ISO 2439 is a similar test, but there are technical differences.

2. Referenced Documents

2.1 *ASTM Standards:*

¹ This test method is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.22 on Cellular Materials- Plastics and Elastomers.

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*A Summary of Changes section appears at the end of this standard.