



Designation: D6478 – 10 (Reapproved 2019)

Standard Test Method for Determining Specific Packability of Fabrics Used in Inflatable Restraints¹

This standard is issued under the fixed designation D6478; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This test method covers procedures for determining the ability to fold and pack fabrics used for inflatable restraints using an index of specific packability.

1.2 Procedures in this test method describe operator techniques that must be followed closely to obtain repeatable and accurate results. Since these techniques are difficult to convey in writing, supplemental training for operators is required. A training video is available from ASTM (see Adjuncts [ADJD6478](#) and [ADJD6478A](#)).

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 Procedures and apparatus other than those stated in this practice may be used as agreed upon between the purchaser and the supplier with specific deviations from this practice acknowledged in the report.

1.5 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.6 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

[D123 Terminology Relating to Textiles](#)

¹ This test method is under the jurisdiction of ASTM Committee [D13](#) on Textiles and is the direct responsibility of Subcommittee [D13.20](#) on Inflatable Restraints.

Current edition approved Jan. 1, 2019. Published January 2019. Originally approved in 1999. Last previous edition approved in 2014 as D6478–10 (2014). DOI: 10.1520/D6478-10R19.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[D1776 Practice for Conditioning and Testing Textiles](#)

[D2904 Practice for Interlaboratory Testing of a Textile Test Method that Produces Normally Distributed Data](#) (Withdrawn 2008)³

[D6799 Terminology Relating to Inflatable Restraints](#)

[E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method](#)

2.2 ASTM Adjuncts:

[ADJD6478](#) — 17 Detailed Drawings⁴

[ADJD6478A](#) — Videotape-Supplemental Training⁴

3. Terminology

3.1 For all terminology relating to D13.20, Inflatable restraints, refer to Terminology [D6799](#).

3.1.1 The following terms are relevant to this standard: inflatable restraint, packability, specific packability.

3.2 For all other terms related to textiles, see Terminology [D123](#).

4. Summary of Test Method

4.1 A fabric specimen is folded uniformly in a “Z” pattern in the warp and fill directions.

4.2 The folded specimen is placed into a transparent box that confines the specimen securely during compression.

4.3 The folded specimen is compressed using a tensile tester outfitted with special hardware, and the resulting volume is recorded at specified loads. The total of all the individual volumes recorded at each specified cell is the specific packability of the fabric.

5. Significance and Use

5.1 This test method is useful for determining the specific packability of uncoated and coated airbag fabrics. Fabric packability is an important factor in the design of airbag modules due to their inherent spacial constraints.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from ASTM International Headquarters. For 17 Detailed CAD Drawings, Order Adjunct No. [ADJD6478](#). For Videotape-Supplemental Training, Order [ADJD6478A](#).