



Designation: D955 – 21

Standard Test Method of Measuring Shrinkage from Mold Dimensions of Thermoplastics¹

This standard is issued under the fixed designation D955; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This test method is intended to measure shrinkage from mold cavity to molded dimensions of thermoplastics when molded by compression or injection processes with specified process conditions.

1.2 This test method covers shrinkage measurements at 24 and 48 hours.

1.3 This method will give comparable data based on standard specimens and can not predict absolute values in actual molded parts with varying flow paths, wall thicknesses, pressure and temperature gradients and process conditions. Differences in mold shrinkage may also be observed among the three specimen geometries described in this test method.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are given for information only.

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.*

NOTE 1—This standard and ISO 294-3 are equivalent in the design of specimen D2. This test method is equivalent to ISO 294-4 where Type D2 specimens and the procedure in [Appendix X2](#) are used.

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.*

¹ This test method is under the jurisdiction of ASTM Committee [D20](#) on Plastics and is the direct responsibility of Subcommittee [D20.09](#) on Specimen Preparation. Current edition approved April 1, 2021. Published April 2021. Originally approved in 1948. Last previous edition approved in 2014 as D955 - 08(2014). DOI: 10.1520/D0955-21.

2. Referenced Documents

2.1 ASTM Standards:²

- [D618 Practice for Conditioning Plastics for Testing](#)
 - [D788 Classification System for Poly\(Methyl Methacrylate\) \(PMMA\) Molding and Extrusion Compounds](#)
 - [D883 Terminology Relating to Plastics](#)
 - [D3641 Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials](#)
 - [D4066 Classification System for Nylon Injection and Extrusion Materials \(PA\)](#)
 - [D4549 Classification System and Basis for Specification for Polystyrene and Rubber-Modified Polystyrene Molding and Extrusion Materials \(PS\)](#)
 - [D4703 Practice for Compression Molding Thermoplastic Materials into Test Specimens, Plaques, or Sheets](#)
 - [D4976 Specification for Polyethylene Plastics Molding and Extrusion Materials](#)
 - [D5947 Test Methods for Physical Dimensions of Solid Plastics Specimens](#)
 - [D6778 Classification System and Basis for Specification for Polyoxymethylene Molding and Extrusion Materials \(POM\)](#)
 - [D6779 Classification System for and Basis of Specification for Polyamide Molding and Extrusion Materials \(PA\)](#)
 - [E456 Terminology Relating to Quality and Statistics](#)
 - [E691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method](#)
 - [E2935 Practice for Conducting Equivalence Tests for Comparing Testing Processes](#)
- ### 2.2 ISO Standards:³
- [ISO 293 Plastics—Compression Moulding Test Specimens of Thermoplastic Materials](#)

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.

³ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

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