



Designation: D 542 – 9500

An American National Standard

Standard Test Method for Index of Refraction of Transparent Organic Plastics¹

This standard is issued under the fixed designation D 542; 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 Department of Defense.

1. Scope*

1.1 This test method covers a procedure for measuring the index of refraction of transparent organic plastic materials.

1.2 A refractometer method is presented. This procedure will satisfactorily cover the range of refractive indices found for such materials. Refractive index measurements require optically homogeneous specimens of uniform refractive index.

NOTE 1—This test method and ISO 489 are technically equivalent.

1.3 *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.*

2. Referenced Documents

2.1 *ASTM Standards:*

~~D 618 Practice for Conditioning Plastics~~

~~C 162 Terminology of Glass and Electrical Insulating Materials for Testing Glass Products²~~

¹ This test method is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.40 on Optical Properties. Current edition approved Sept. 10, 1995; 2000. Published November 1995; January 2001. Originally published as D 542 – 39. Last previous edition ~~D 542 – 90~~. A five-year review of this test method revealed that no technical changes are needed. Changes include (a) the addition of an ISO statement, (b) addition of Keywords section, (c) deletion of all references to non-SI units, and (d) editorial changes for improved clarity. D 542 – 95.

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