



Designation: D 2707 - 85

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Standard Method of TESTING HARD RUBBER IN TENSION¹

This standard is issued under the fixed designation D 2707; 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 method has been approved for use by agencies of the Department of Defense and for listing in the DoD Index of Specifications and Standards.

1. Scope

1.1 This method covers the determination of the tensile strength and ultimate elongation of hard rubber and similar hard, low-elongation vulcanized materials.

1.2 This method does not apply to soft vulcanized rubber and similar rubber-like materials.

1.3 At standard test temperature, tensile strength and elongation can be determined.

1.4 At test temperatures other than standard test temperature, the method should apply only to tensile strength.

1.5 The values stated in either acceptable metric units or in other units shall be regarded separately as standard. The values stated in each system may not be exact equivalents; therefore each system must be used independently of the other, without combining values in any other way.

1.6 *This standard may involve hazardous materials, operations, and equipment. This standard does not purport to address all of the safety problems associated with its use. It is the responsibility of whoever uses this standard to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Applicable Documents

2.1 ASTM Standards:

D 530 Methods of Testing Hard Rubber Products²

D 1349 Practice for Rubber—Standard Temperatures and Atmospheres for Testing and Conditioning³

D 1566 Definitions of Terms Relating to Rubber³

D 3040 Practice for Preparing Precision Statements for Standards Related to Rubber and Rubber Testing³

D 3767 Practice for Rubber—Measurement of Dimensions²

E 4 Practice for Load Verification of Testing Machines⁴

NOTE 1—The specific dated edition of Practice D 3040 that prevails in this document is referenced in the Precision section.

3. Definitions

3.1 *Hard rubber* is defined in accordance with Method D 530.

3.2 *Tensile stress, tensile strength, elongation, and ultimate elongation* are defined in accordance with Definitions D 1566.

4. Significance and Use

4.1 This method is designed to generate tensile property data for the control and specification of hard rubber and similar hard, low-elongation vulcanized materials.

4.2 These data may also be useful for material evaluation and qualitative characterization purposes and for research and development.

4.3 Tensile properties may provide useful data for hard rubber design purposes.

4.4 Tensile properties may vary depending on location, within the product.

¹ This method is under the jurisdiction of the ASTM Committee D-11 on Rubber and is the direct responsibility of Subcommittee D11.10 on Physical Testing.

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² *Annual Book of ASTM Standards*, Vol 09.01.

³ *Annual Book of ASTM Standards*, Vols 09.01 and 09.02.

⁴ *Annual Book of ASTM Standards*, Vol 03.01.