



Designation: D 530 – 81 (Reapproved 1985)

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Standard Methods of Testing HARD RUBBER PRODUCTS¹

This standard is issued under the fixed designation D 530; 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.

These methods have been approved by agencies of the Department of Defense to replace methods 11221 (part) and 11231 (part) of Federal Test Method No. 601 and for listing in the DoD Index of Specifications and Standards.

1. Scope

1.1 These methods cover procedures suitable for the measurement of chemical, mechanical, and electrical properties of hard rubber and similar hard, low-elongation, vulcanized materials.

1.2 The values stated in SI units are to be regarded as the standard.

1.3 *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 149 Test Methods for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies²
- D 150 Test Methods for A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulating Materials²
- D 256 Test Methods for Impact Resistance of Plastics and Electrical Insulating Materials²
- D 257 Test Methods for D-C Resistance or Conductance of Insulating Materials²
- D 297 Methods for Rubber Products—Chemical Analysis³
- D 570 Test Method for Water Absorption of Plastics⁴
- D 618 Method for Conditioning Plastics and Electrical Insulating Materials for Testing⁵
- D 621 Test Methods for Deformation of Plastics Under Load⁴

D 790 Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials⁴

D 2135 Classification of Hard Rubbers³

D 2240 Test Method for Rubber Property—Durometer Hardness³

D 2707 Test Method for Hard Rubber in Tension³

E 18 Test Methods for Rockwell Hardness and Rockwell Superficial Hardness of Metallic Materials⁶

3. Descriptions of Terms Specific to This Standard

3.1 The term “hard rubber” as used in these methods shall be understood to denote the rigid, crosslinked polymeric products obtained by vulcanization of a diene rubber with sulfur under conditions sufficient to cause chemical combination of at least 15 parts sulfur per 100 parts hydrocarbon.

3.2 The term “hard rubber compound” as used in these methods shall be understood to denote a rigid, crosslinked polymer mixture consisting of hard rubber in essentially homogeneous admixture with other materials, the hard rubber comprising the greater amount by mass of the polymeric portion of the mixture.

¹ These methods are under the jurisdiction of ASTM Committee D-11 on Rubber and are the direct responsibility of Subcommittee D11.10 on Physical Testing.

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² Annual Book of ASTM Standards, Vol 09.02.

³ Annual Book of ASTM Standards, Vol 09.01.

⁴ Annual Book of ASTM Standards, Vol 08.01.

⁵ Annual Book of ASTM Standards, Vol 10.01.

⁶ Annual Book of ASTM Standards, Vol 03.01.