



Designation: D 2135 - 83

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Standard Classification of HARD RUBBERS¹

This standard is issued under the fixed designation D 2135; 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 classification covers the mechanical, electrical, and chemical properties of hard rubber products prepared from new or reclaimed natural and synthetic rubber.

1.2 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.

2. Applicable Documents

2.1 ASTM Standards:

- D 149 Tests for Dielectric Breakdown Voltage and Dielectric Strength of Electrical Insulating Materials at Commercial Power Frequencies²
- D 150 Tests for A-C Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulating Materials²
- D 256 Tests for Impact Resistance of Plastics and Electrical Insulating Materials²
- D 257 Tests for D-C Resistance or Conductance of Insulating Materials²
- D 530 Testing Hard Rubber Products³
- D 570 Test for Water Absorption of Plastics⁴
- D 648 Test for Deflection Temperature of Plastics Under Flexural Load⁴
- D 790 Test for Flexural Properties of Plastics and Electrical Insulating Materials⁴
- D 2240 Test for Rubber Property—Durometer Hardness³
- D 2707 Testing Hard Rubber in Tension³

3. Significance and Use

3.1 The purpose of this classification is to provide a concise, easy to use designation, that

describes the required property levels of a material.

4. Descriptions of Terms

4.1 *Hard Rubber* as used herein shall be understood to refer to compositions having combined sulfur in excess of 15 %.

4.2 *Rubber* as used herein shall be understood to include polybutadiene and polyisoprene and their respective copolymers.

4.3 *Product* as used herein shall be understood to include sheet, rod, tube, and molded items.

5. Classes and Grades

5.1 *Classes*—This classification describes two classes of hard rubber:

5.1.1 *Class G*—A general-purpose hard rubber with average requirements.

5.1.2 *Class R*—A hard rubber with added special requirements.

5.2 *Grades*—This classification provides for as many grades of hard rubber as may be selected from the possible combinations of requirements in Table 1. A grade is designated by indicating first the class followed by column numbers for each property in the order in which they are listed in Table 1. Where there is no interest in a property a "0" is inserted in place of a column number.

5.3 Special requirements (R), when applicable, are appended to general purpose require-

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

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² 1983 Annual Book of ASTM Standards, Vol 10.02.

³ 1983 Annual Book of ASTM Standards, Vol 09.01.

⁴ 1983 Annual Book of ASTM Standards, Vol 08.01.