



Standard Test Methods for Rubber (Elastomeric) Belting, Flat Type¹

This standard is issued under the fixed designation D 378; 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 These test methods (and references) cover the procedures for evaluating the physical properties of flat conveyor belting. Performance criteria for belting will not be detailed here, but can be found through the RMA (Rubber Manufacturers Association) Conveyor and Elevator Belt Handbook, ANSI (American National Standards Institute), various governmental authorities, and the International Organization for Standardization (ISO). Belting for conveying and elevating materials generally is designated and defined as follows:

1.1.1 *Heavy Duty Conveyor*—A heavy duty belt is defined as belting designed for bulk haulage of materials, such as stone, crushed rock, sand, metals ores, coal, wood chips, etc., and has a carcass strength (design) substantial enough to withstand conveyor system tensions of 160 PIW² (pounds per inch of width) and above.

1.1.2 *Light Duty Conveyor*—A light duty belt is defined as belting designed for conveying a variety of lower weight (density) materials, packages, industrial and electronic goods, and food products. These belts often are shorter in length and width, with less overall thickness than heavy duty belting, and are generally used in conveyor systems with tensions less than 160 PIW.

1.1.3 *General Description*—Belting can have elastomeric coverings on one side, both sides, or neither side depending upon the specific application requirements. Belt coverings are comprised of various synthetic or natural rubber polymers, PVC, or other elastomeric materials, dependent upon application or customer requirements. The strength (load bearing) member(s) of most belting generally is a woven or interwoven carcass of synthetic or natural fibers, such as, but not limited to, polyester, nylon, polyaramide and cotton, as well as steel (cable/cord type or woven mesh).

1.2 *This standard does not purport to address all of the application specific testing available or 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 412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension³
- D 413 Test Methods for Rubber Property—Adhesion to Flexible Substrate³
- D 471 Test Method for Rubber Property—Effect of Liquids³
- D 573 Test Method for Rubber—Deterioration in an Air Oven³
- D 624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers³
- D 865 Test Method for Rubber—Deterioration by Heating in Air (Test Tube Enclosure)³
- D 1149 Test Method for Rubber Deterioration—Surface Ozone Cracking in a Chamber³
- D 1415 Test Method for Rubber Property—International Hardness³
- D 1630 Test Method for Rubber Property—Abrasion Resistance (Footwear Abrader)³
- D 1894 Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheet⁴
- D 2228 Test Method for Rubber Property—Abrasion Resistance (Pico Abrader)³
- D 2240 Test Method for Rubber Property—Durometer Hardness³
- D 3183 Practice for Rubber—Preparation of Pieces for Test Purposes From Products³
- D 3389 Test Method for Coated Fabrics Abrasion Resistance (Rotary Platform, Double-Head Abrader)⁵
- D 3767 Practice for Rubber—Measurement of Dimensions³
- D 4483 Practice for Determining Precision for Test Method Standards in the Rubber and Carbon Black Industries³
- D 5963 Test Method for Rubber Property—Abrasion Resistance Rotary Drum Abrader³

¹ These test methods are under the jurisdiction of ASTM Committee D11 on Rubber and are the direct responsibility of Subcommittee D11.31 on Rubber Hose and Belting.

Current edition approved May 10, 2000. Published July 2000. Last previous edition D 378 – 91 (1999).

² PIW is not an SI unit.

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 09.02.