



Designation: D378 – 24

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

This standard is issued under the fixed designation D378; 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 reappraisal. A superscript epsilon (ϵ) indicates an editorial change since the last revision or reappraisal.

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 PIW and above.

NOTE 1—PIW is an abbreviation for pounds per inch of width commonly used in the conveyor belt industry.

1.1.2 *Light Duty Conveyor*—A light duty belt is defined as belting designed for conveying a variety of lower weight 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 load bearing member(s) of most belting is generally a woven or interwoven carcass of synthetic or natural fibers such as, but not limited to, polyester, nylon, polyaramid, cotton, as well as steel (cable/cord type or woven mesh).

1.1.4 The values stated in SI units are to be regarded as standard. The values given in parentheses after SI units are provided for information only and are not considered standard.

1.2 *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, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

D412 Test Methods for Vulcanized Rubber and Thermoplastic Elastomers—Tension

D413 Test Methods for Rubber Property—Adhesion to Flexible Substrate

D471 Test Method for Rubber Property—Effect of Liquids

D573 Test Method for Rubber—Deterioration in an Air Oven

D624 Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers

D865 Test Method for Rubber—Deterioration by Heating in Air (Test Tube Enclosure)

D1149 Test Methods for Rubber Deterioration—Cracking in an Ozone Controlled Environment

D1415 Test Method for Rubber Property—International Hardness

D1894 Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheet (Withdrawn 2023)³

D2240 Test Method for Rubber Property—Durometer Hardness

D3183 Practice for Rubber—Preparation of Pieces for Test Purposes from Products

D3767 Practice for Rubber—Measurement of Dimensions

D4483 Practice for Evaluating Precision for Test Method

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

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at www.astm.org/contact. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.