



Standard Guide for Width and Length of Pressure-Sensitive Tape¹

This standard is issued under the fixed designation D 5750/D 5750M; 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 guide provides guidelines for widths and lengths of pressure-sensitive tape, including tolerances and labeling in the inch-pound and SI systems. It is not intended for tapes used for medical, surgical, or label stock purposes.

1.2 Units stated in the inch-pound system followed by a calculated unit in the SI system are to be regarded separately as standard and should not be interchangeable with units stated in the SI system. The units stated in each system may not be exact equivalents; therefore, each system shall be used independently of the other.

1.3 *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 and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:

D 4332 Practice for Conditioning Containers, Packages, or Packaging Components for Testing²

3. Terminology

3.1 Definitions:

3.1.1 *pressure-sensitive tape*—a pressure-sensitive adhesive coated substrate in roll form wound on a core, equal to or greater than 12 in. (0.305 m) in length.

3.1.2 *roll length*—the length of tape on a roll minus the tab and any tape on the core which cannot be removed and used for the intended purpose.

4. Significance and Use

4.1 Conformance to this guide will reduce chances of misunderstanding between suppliers and users of pressure-sensitive tapes.

4.2 It is recommended that this guide be referenced where widths and lengths of pressure-sensitive tapes are stated, such as in contracts, orders, advertisements, and labeling.

¹ This specification is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.14 on Tape and Labels.

Current edition approved July 15, 1995. Published September 1995.

² *Annual Book of ASTM Standards*, Vol 15.09.

5. Units of Measurement

5.1 All widths and lengths are to be stated using a primary and a secondary system, the latter being a calculated value using procedures stated in Section 11.

5.2 The unit of width shall be inches or millimetres.

5.3 The unit of length shall be yards or metres. For rolls 72 yd (2592 in.) and under, the length may be stated in inches.

5.4 When width is stated in inches, the length shall be stated in yards. When width is stated in millimetres, the length shall be stated in metres.

6. Widths

6.1 When the inch-pound system is used as the primary measurement system, roll widths are stated in a modular system with $\frac{1}{8}$ in. increments for roll widths under 1 in., $\frac{1}{4}$ in. increments for roll widths between 1 and 2 in., and $\frac{1}{2}$ in. increments for roll widths over 2 in.

6.1.1 The SI width shall be calculated (11.1) and listed in addition to the primary inch-pound width, and should be stated in millimetres rounded to the nearest $\frac{1}{10}$ mm.

6.2 When the SI system is used as the primary measurement system, widths are stated in a modular systems, with 3-mm increments for rolls under 24 mm, 6 mm for increments for roll widths between 24 and 48 mm, and 12 mm for roll widths over 48 mm.

6.2.1 The inch width shall be calculated (see 11.2) and listed, in addition to the primary SI width. The inch width should be stated in inches rounded to the nearest $\frac{1}{100}$ in.

6.3 In any shipment or offering of tape, the average width of all rolls shall equal or exceed the stated width.

7. Length

7.1 For both the inch-pound and SI systems, the average roll length in any shipment or offering of tape shall equal or exceed the stated value.

8. Tolerances

8.1 The applicable tolerance shall be that of the primary measurement system.

8.2 In the inch-pound system, the width tolerances shall be $\pm \frac{1}{32}$ in. This applies to rolls less than 36 in. in width.

8.3 In the SI system, the width tolerance shall be ± 0.8 mm. This applies only to rolls less than 1000 mm in width.

9. Labeling

9.1 With both the inch-pound and SI systems, the width shall be stated first followed by the length.

9.2 The width and length, as determined by the primary measurement system, shall be listed first. The secondary calculated units shall be in parentheses.

10. Calculations of Secondary Measurement

10.1 When the primary measurement system is the inch-pound system, the SI width is calculated using $1 \text{ in.} = 25.4 \text{ mm}$. The SI width, rounded to the nearest $\frac{1}{10}\text{mm}$, is stated as the secondary width. The SI length is calculated using $1 \text{ yd} = 0.9144 \text{ m}$. The SI length, rounded to the nearest $\frac{1}{10} \text{ m}$, is stated as the secondary length [for example, 2 in. by 60 yd (50.8 mm by 54.8 m)].

10.2 When the primary measurement is the SI system, the inch-pound width is calculated using $1 \text{ mm} = 0.03937 \text{ in.}$ The inch-pound width, rounded to the nearest $\frac{1}{100} \text{ in.}$, is stated as the secondary width. The inch-pound length is calculated using $1 \text{ m} = 1.0936 \text{ yd}$. The inch-pound length, rounded to the nearest $\frac{1}{10} \text{ yd}$, is stated as the secondary length [for example, 48 mm by 50 m (1.88 in. by 54.6 yd)].

10.3 The secondary measurement is always rounded to the nearest appropriate interval. In 9.1, 60 yd equals 54.864 m, but the SI roll length in this case is stated as 54.8 m.

11. Test Methods

11.1 *Conditioning*— Prior to dimensional measurements, the rolls of tape shall be conditioned for 24 h at the standard conditioning atmosphere as described in Practice D 4332.

11.2 *Width and Length:*

11.2.1 *Apparatus*—Any suitable device of sufficient accuracy whose calibration is traceable to an NIST standard.³

11.2.2 *Procedure*—Any means which produces accurate and reproducible results on the tape without stretching (length measurement) or other deformation.

12. Keywords

12.1 inch-pound; length; pressure-sensitive tape; SI; width

³ Available from National Institute of Standards and Technology (NIST), Gaithersburg, MD 20899.

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