Designation: D 3953 – 02

Standard Specification for Strapping, Flat Steel and Seals[1]

This standard is issued under the fixed designation D 3953; 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.

This standard has been approved for use by agencies of the Department of Defense.

1. Scope

1.1 This specification covers flat steel strapping and seals intended for use in closing, reinforcing, bundling articles for shipment, unitizing, palletizing, and bracing for carloading and truckloading.

1.2 This specification includes strapping and seals made from carbon steel and applies only to the types and sizes as cataloged by strapping suppliers to be a standard, commercially available product. It does not include "specialty"-type strapping as developed for special applications or strapping produced from alloy metals.

1.3 The values stated in inch-pound units are to be regarded as standard.

1.4 The following safety hazards caveat applies only to the test method portion, Sections 11, 12, and 13, of this specification: *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:*

A 90/A90M Test Method for Weight (Mass) of Coating on Iron or Steel Articles with Zinc or Zinc-Alloy Coatings[2]

A 109 Specification for Steel, Strip, Carbon, Cold-Rolled[3]

A 239 Test Method for Locating the Thinnest Spot in a Zinc (Galvanized) Coating on Iron or Steel Articles by the Preece Test (Copper Sulfate Dip)[2]

B 504 Test Method for Measurement of Thickness of Metallic Coatings by the Coulometric Method[4]

D 996 Terminology of Packaging and Distribution Environments[5]

D 3951 Practice for Commercial Packaging[5]

D 4332 Practice for Conditioning Containers, Packages, or Packaging Components for Testing[5]

D 4675 Guide for Selection and Use of Flat Strapping Materials[5]

E 177 Practice for Use of the Terms Precision and Bias in ASTM Test Methods[6]

E 691 Practice for Conducting an Interlaboratory Study to Determine the Precision of a Test Method[6]

2.2 *Military Standard:*

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes[7]

2.3 *AAR General Rules 15*

AAR Rule Governing the Loading of Commodities on Open Top Cars[8]

3. Terminology

3.1 General definitions for packaging and distribution environments are found in Terminology D 996.

4. Strapping Classifications

4.1 Strapping shall be of the following types, finish and sizes:

Type 1, Flat Strapping: Power Machine and Hand Application:

Regular-duty

Regular-duty high-strength

Heavy-duty

Type 2: Nail-On

4.1.1 *Strapping Finish, Lubricated or Dry* (see 8.3):

4.1.1.1 *Finish A—Organic (Pigmented or Unpigmented Paint)*

4.1.1.2 *Finish B—Galvanized (Hot Dipped or Electro-Deposit Galvanized*) (see 8.10):

Grade 1—Heavy Coating

Grade 2—Moderate Coating

[1] This specification is under the jurisdiction of ASTM Committee D10 on Packaging and is the direct responsibility of Subcommittee D10.25 on Palletizing and Unitizing of Loads.

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[2] *Annual Book of ASTM Standards*, Vol 01.06.

[3] *Annual Book of ASTM Standards*, Vol 01.03.

[4] *Annual Book of ASTM Standards*, Vol 02.05.

[5] *Annual Book of ASTM Standards*, Vol 15.09.

[6] *Annual Book of ASTM Standards*, 14.02.

[7] Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

[8] AAR Rule Governing the Loading of Commodities on Open Top Cars, Section No. 1 General Rules—Rule 15, available from the Association of American Railroads, Mechanical Division 50 F St., NW, Washington, DC 20001.

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