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Standard Specification for Twine Made From Bast and Leaf Fibers¹

This standard is issued under the fixed designation D 1233; 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.

^{ε1} NOTE—Editorial changes were made throughout December 1993.

1. Scope

1.1 This specification applies to all twines, whether polished or unfinished, made from bast or leaf fibers, or both, with the exception of twine made from longline hard fibers (sisal, henequen, or abaca).

NOTE 1—No tests have been made to determine the applicability of the procedures in this specification when used on products made from cotton, paper, or man-made fibers.

NOTE 2—For methods covering single-jute yarn, refer to Specification D 541. For methods covering jute rove and plied yarn for electrical and packing purposes, refer to Specification D 681.

1.2 Twines made from longline hard fibers are not part of this standard, and should be tested as agreed upon between the purchaser and the seller.

1.3 Tolerances for the properties and the test methods upon which they are based are included in the following sections:

Properties	Tolerances	Test Methods
Yarn Number	4	9
Breaking Load (Strength)—Single Strand	5	15

1.4 The following safety hazards caveat pertains only to the test methods described in 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:

- D 76 Specification for Tensile Testing Machines for Textiles²
- D 123 Terminology Relating to Textiles²
- D 541 Specification for Single Jute Yarn²
- D 681 Specification for Jute Rove and Plied Yarn for Electrical and Packing Purposes²
- D 1776 Practice for Conditioning Textiles for Testing²
- D 2258 Practice for Sampling Yarn for Testing²
- D 2905 Practice for Statements on Number of Specimens for Textiles²

¹ This specification is under the jurisdiction of ASTM Committee D-13 on Textiles, and is the direct responsibility of Subcommittee D13.16 on Bast and Leaf Fibers and Their Products.

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² Annual Book of ASTM Standards, Vol 07.01.

3. Terminology

3.1 Definitions:

3.1.1 *bast and leaf fibers, n*—fibers derived from the inner fibrous bark and the hard coarse leaves of dicotyledonous plants such as flax, hemp, jute, and abaca.

3.1.1.2 *Discussion*—For a listing of bast and leaf fibers see Table 5 in Annex A2 of Terminology D 123.

3.1.2 *twine, n*—(1)—a term applied loosely to a variety of textile strands used for tying such articles as parcels, bundles, or bales. (2) an aggregate of fibers or yarns compacted into a partially or completely balanced twisted structure of indefinite length, generally used for tying or binding.

3.1.3 For definitions of other textile terms used in this specification, refer to Terminology D 123.

REQUIREMENTS

4. Yarn Number

4.1 The average yarn number shall be as specified within the following permissible variations:

Tex, g/km	Yarn Number, ft/lb	Permissible Variations, %
less than 275	More than 5400	±10.0
275 and up to 415	5400 to 3600	±7.5
415 and over	3600 and less	±5.0

5. Breaking Load (Strength)—Single Strand

5.1 The average breaking load or strength of the yarn shall be not less than that agreed upon between the purchaser and the supplier.

TEST METHODS

6. Significance and Uses

6.1 Because usage of twine made from bast or leaf fibers is generally related to linear measure, it is the practice to express size in tex, g/km (feet per pound). In addition, since twines of all sorts are normally used for tying such articles as parcels, bundles, or bales, the breaking strength of a twine is an important property in determining if it will properly perform as required. Twines made from bast or leaf fibers have so little elasticity that elongation is not a property of general interest.

7. Sampling

7.1 *Lot Sample*—As a lot sample for acceptance testing, take at random the number of shipping cases directed in an applicable material specification or other agreement between the purchaser and the supplier, such as an agreement to use