



Standard Specification for Asbestos Yarns¹

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ε¹ NOTE—Table 2 was corrected and the year date changed in March 2000.

1. Scope

1.1 This specification covers asbestos yarns having a minimum of 75 % asbestos fiber by mass, excluding the mass of other inorganic reinforcing strands which may be present.

1.2 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.3 The following safety hazards caveat pertains only to the test methods, Section 13, 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 861 Practice for Use of the Tex System to Designate Linear Density of Fibers, Yarn Intermediates, and Yarns²
- D 1118 Test Method for Magnetic Rating of Asbestos Fiber and Asbestos Textiles³
- D 1423 Test Method for Twist in Yarns by the Direct-Counting Method²
- D 1918 Test Method for Asbestos Content of Asbestos Textiles³
- D 2100 Specification for Asbestos Textiles Used for Electrical Insulating Purposes³
- D 2260 Tables of Conversion Factors and Equivalent Yarn Numbers Measured in Various Numbering Systems²
- D 2946 Terminology Relating to Asbestos³

3. Terminology

3.1 For definitions of other textile terms used in this

specification, refer to Terminology D 123. For asbestos terms, refer to Terminology D 2946.

3.2 Definitions:

3.2.1 *asbestos, n*—1. *general*—a group of impure silicate minerals occurring in fibrous form. 2. *textile*—the hydrous magnesium silicate serpentine mineral designated as chrysotile, and having the empirical formula $\text{Mg}_3\text{Si}_2\text{O}_5(\text{OH})_4$.

3.2.2 *asbestos yarn construction number, n*—a system of numbers designed to show the construction, namely, the cut of the single yarn, the number of plies, and whether reinforcements are present.

3.2.2.1 *Discussion*—Yarns up to 9-cut, inclusive, have 3-digit construction numbers; the first digit indicates the cut, the second digit the number of plies, and the third digit, the number of reinforcements. Yarns of 10-cut and over have 4-digit construction numbers; the first 2 digits indicate the cut, the third digit, the number of plies, and the fourth digit, the number of reinforcements.

Yarns containing reinforcement are designated by the yarn construction number followed by the description of the reinforcing strands.

Examples:

No. 1010 yarn	10-cut, single, no reinforcement
No. 1420 yarn	14-cut, 2-ply, no reinforcement
No. 931 yarn	9-cut, 3-ply, 1 reinforcement (as specified)

When wire is the reinforcement the cut indicates the yards per pound of asbestos yarn only (mass of the wire not included). When the reinforcement is other than wire, the cut indicates the yards per pound of the complete assembly.

3.2.3 *atmosphere for testing asbestos textiles, n*—air maintained at a relative humidity of $50 \pm 2\%$ at $21 \pm 1^\circ\text{C}$.

3.2.4 *cut (asbestos), n*—the number of 100-yd lengths/lb (453.6 g) of asbestos yarn.

3.2.4.1 *Discussion*—The term “cut” represents a length-per-unit-mass unit, and is derived by cutting (dividing) 7000 grains (453.6 g) by the mass of 100 yd in grains or the mass of 91.44 m in grams of a single yarn. The number of such units expresses the number of the cut, and when multiplied by 100, indicates the nominal yards per pound (metres/kilogram).

Example 1—If 5 30-m skeins of single roving, or 150 m, weigh 45.2 g, then 201.6 m weigh 60.7 g.

Cut = $1 \text{ kg}/60.7 \text{ g}$

= 16.47, or 16.47-cut, which is 16-cut on the light side; and $16 \times 201.6 = 3226 \text{ m/kg}$, nominal.

Example 2—If 5 30-yd skeins of single yard, or 150 yd, weigh 637.5

¹ This specification is under the jurisdiction of ASTM Committee C-17 on Fiber-Reinforced Cement Products and is the direct responsibility of Subcommittee C17.03 on Asbestos-Cement Sheet Products and Accessories.

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² *Annual Book of ASTM Standards*, Vol 07.01.

³ *Annual Book of ASTM Standards*, Vol 04.05.