



Standard Specification for Woven Asbestos Tape¹

This standard is issued under the fixed designation D 315; 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 specification covers woven asbestos tape having a minimum of 75 % asbestos fiber by weight, excluding the weight of other inorganic reinforcing strands that 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 123 Terminology Relating to Textiles²

D 299 Specification for Asbestos Yarns³

D 1118 Test Method for Magnetic Rating of Asbestos and Products³

D 1682 Test Methods for Breaking Load and Elongation of Textile Fabrics²

D 1777 Method for Measuring Thickness of Textile Materials³

D 1918 Test Method for Asbestos Content of Asbestos Textiles⁴

D 2100 Specification for Asbestos Textiles Used for Electrical Insulating Purposes⁴

D 2946 Terminology Relating to Asbestos⁴

D 3774 Test Methods for Width of Woven Fabric⁵

D 3775 Test Method for Fabric Count of Woven Fabric⁵

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 *asbestos textile, n*—the hydrous magnesium silicate serpentine mineral designated as chrysotile and having the empirical formula $\text{Mg}_3\text{Si}_2\text{O}_5(\text{OH})_4$.

4. Classification

4.1 *Classes*—The classes of asbestos tapes are based on the nature of the yarns from which they are woven.

4.1.1 *Class A*—Tape constructed of asbestos yarns containing no reinforcing standards.

4.1.2 *Class B*—Tape constructed of asbestos yarns containing wire reinforcement.

4.1.3 *Class C*—Tape constructed of asbestos yarns containing organic reinforcing strands.

4.1.4 *Class D*—Tape constructed of asbestos yarns containing nonmetallic inorganic reinforcing strands.

4.1.5 *Class E*—Tape constructed of two or more of the yarns used in tape classes A through D.

4.2 *Grades*—The grades of asbestos tape are based on the percentage of asbestos content by mass as stated in Table 1.

4.3 Types:

4.3.1 Asbestos tubing as made for the electrical industry is furnished in three types, classified on the basis of magnetic rating determined by Test Method D 1118, which serve to identify performance limits.

Type II Magnetic Rating 0.75 maximum

Type IV Magnetic Rating 2.00 maximum

Type VI Magnetic Rating 4.00 maximum

4.3.2 *Type II* is intended only for special applications where the asbestos is of primary importance as electrical insulation used on magnet wire and when used primarily as a dielectric.

4.3.3 *Type IV* is intended for use where the asbestos is of secondary importance as electrical insulation and where it is applied in combination with other materials of comparably higher dielectric strength, as in the construction of heat and flame resistant electrical insulating walls over unit conductors of electric cables.

4.3.4 *Type VI* is intended for use where the asbestos is of minor importance as a dielectric, as in the construction of filler or heat and flame resistant walls of electric cables or when used as a lining for control enclosures (arc chutes) subject to exposure to electric arcs.

5. Ordering Information

5.1 Woven asbestos tape is normally purchased on the basis

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.

Current edition approved Feb. 15, 1995. Published April 1995. Originally issued as D 315 – 29 T. Discontinued November 1989 and reinstated as D 315 – 95.

² Annual Book of ASTM Standards, Vol 07.01.

³ Discontinued, see 1991 Annual Book of ASTM Standards, Vol 07.01.

⁴ Annual Book of ASTM Standards, Vol 04.05.

⁵ Annual Book of ASTM Standards, Vol 07.02.

TABLE 1 Grades of Woven Asbestos Tape

Grade	Asbestos Content, mass %
Commercial	75 up to but excluding 80
Underwriters	80 up to but excluding 85
A	85 up to but excluding 90
AA	90 up to but excluding 95
AAA	95 up to but excluding 99
AAAA	99 to 100 inclusive

of class, grade, type, mass per unit length (weight), width, length, and thickness as specified in the order.

5.2 Rolls of asbestos tape are normally furnished in the following lengths:

Nominal Thickness	Nominal Roll Length
Up to and including 0.75 mm (0.03 in.)	30 m (36 yd)
Over 0.75 mm (0.03 in.) up to and including 1.5 mm (1/16 in.)	30 m (100 ft)
Over 1.5 mm (1/16 in.)	15 or 30 m (50 or 100 ft)

5.3 Special roll lengths shall be as agreed upon between the buyer and seller.

5.4 At least 90 % of the number of rolls in the lots shall be furnished as one piece. No roll shall contain more than two pieces. The shortest piece shall not be less than 20 % of the specified nominal roll length.

6. Materials and Manufacture

6.1 *Yarn*—Asbestos tape shall be uniformly woven from a specified grade of asbestos yarn with or without reinforcement.

6.2 *Wire reinforcement*—The wire reinforcement may be brass, copper, zinc, nickel, nichrome, inconel, monel, or other metal or alloy as specified in the order.

6.3 *Organic Reinforcement*—The organic reinforcement may be cotton, nylon, rayon, or other spun or filament yarn(s) as specified in the order.

6.4 *Inorganic Reinforcement*—The inorganic reinforcement may be glass, or other ceramic or vitreous spun or filament yarn(s) as specified in the order.

6.5 It is permissible to use a maximum of two ends of yarns other than asbestos in each selvage.

7. Chemical Composition

7.1 *Asbestos Content*—The asbestos content of the particular grade specified shall be in accordance with the limits stated in Table 1.

8. Physical Properties

8.1 *Electromagnetic Properties*—Tape to be used for electrical insulating purposes shall conform to the requirements in Specification D 2100.

9. Mechanical Properties

9.1 *Tensile Breaking Strength*—The tensile (breaking) strength (breaking load) of asbestos tape shall be as agreed upon between the buyer and seller.

10. Dimensions, Mass, and Permissible Variations

10.1 The physical properties of woven asbestos tape shall conform to the requirements as specified in the order, subject to the following tolerances:

10.1.1 *Width*—The width of asbestos tape shall be within the following limits:

Nominal Width	Permissible Limits
Up to and including 25.4 mm (1 in.)	±1.5 mm (0.059 in.)
Over 25.4 mm (1 in.) up to and including 75 mm (3 in.)	±2.5 mm (0.098 in.)
Over 75 mm (3 in.)	±3.0 mm (0.18 in.)

10.1.2 *Thickness*—The thickness of asbestos tape shall be within the following limits:

Nominal Thickness	Permissible Limits
Up to and including 0.75 mm (0.03 in.)	±0.05 mm (0.002 in.)
Over 0.75 mm (0.03 in.) up to and including 1.5 mm (1/16 in.)	±0.1 mm (0.005 in.)
Over 1.5 mm (1/16 in.)	+ 0.25 mm (0.01 in.) −0.1 mm (0.005 in.)

10.1.3 *Mass per Unit Length (Weight)*—The linear density (weight) of asbestos tape shall be within ±10 % of the specified mass per unit length (weight).

10.1.4 *Fabric Count*—The total number of warp ends and filling picks per 25 mm (1 in.) shall be within the following limits:

Total Warp Ends	Permissible Limits
All widths	±10 % of the specified number of ends
Picks per 25 mm (1 in.)	
20 or less per 25 mm (1 in.)	±1 pick per 25 mm (1 in.)
More than 20 per 25 mm (1 in.)	±5 % of the specified filling count.

10.1.5 *Yarn Number (Cut)*—The yarn number (cut) shall be as specified and shall conform to the requirements stated in Specification D 299.

11. Sampling

11.1 From each lot of tape, take a lot sample in a random manner to be representative of the lot in accordance with the schedule in Table 2. Cut a specimen from each roll taken for test, each specimen to be the full width of the tape and at least 1.5 m (5 ft) long. The specimen may be taken from the cut end of the roll.

12. Specimen Preparation

12.1 Condition all specimens (without preconditioning) for a period of 4 h, or until the specimen shows a progressive change in mass of no more than 0.1 % after an exposure of 0.5 h, in an atmosphere having a relative humidity of 50 ± 2 % at $21 \pm 1.1^\circ\text{C}$.

13. Test Methods

MENSURATION

13.1 *Scope*—This test method covers the measurements of the width, thickness, mass per unit length (weight), and fabric count for woven asbestos tape.

TABLE 2 Lot Sample Size

Number of Rolls in Lot or Shipment	Number of Rolls to Be Taken for Test
50 and under	3
51 to 100	5
101 to 250	7
251 to 500	10
501 to 700	12
701 to 1000	15
1001 rolls and over	2 % of shipment rounded off to the next higher integer

TABLE 3 Components of Variance for the Properties Listed, as Standard Deviations

Property	Units	Single-Operator Interlaboratory	
		Repeatability	Reproducibility
Width	mm (in.)	0.719 (0.0283)	0.328 (0.0129)
Thickness	mm (in.)	0.043 (0.0017)	0.030 (0.0012)
Fabric count			
Warp	number	0.196	0.290
Filling	number	(0.1811)	(0.1526)
Tensile (breaking) strength (breaking load) ^A			
Warp	N (lbf)	21.8 (4.91)	71.9 (16.17)
Linear density (weight)	kg/100 m (lb/100 ft)	0.3049 (0.2049)	0.0902 (0.0606)

^A Each laboratory tensile (breaking) strength, or breaking load was on a different value level.

13.2 Significance and Use—The measurements determined on woven asbestos tapes establish their suitability for use in various product applications. These dimensions constitute an important part of the information specified on purchase contracts.

13.3 Hazards—When cutting or handling asbestos tapes, avoid creating dust or wear a respiratory protector. Frequent prolonged respiration of excessive concentrations of airborne asbestos may cause serious bodily harm.

13.4 Procedure:

13.4.1 Width:

13.4.1.1 Measure the width of the tape on each roll taken for test by the use of a standard steel rule graduated in millimetres ($\frac{1}{16}$ -in.) or finer divisions. Make the measurements while the tape lies flat and without tension on a smooth surface. Make five measurements at least 300 mm (1 ft) apart in each roll.

13.4.1.2 Report the average of the measurements on all rolls as the width of the lot under test.

13.4.2 Thickness:

13.4.2.1 Measure the thickness of the tape as directed in Method D 1777. Use a gage having a circular pressor foot with a nominal diameter of 9.5 mm (0.375 in.). The pressor foot and moving parts shall be weighted so as to apply a total load of 170 ± 3 g (6 ± 0.1 oz) equivalent in pressure to 23.4 kPa (3.4 psi) to the specimen. Make ten thickness measurements on a specimen from each roll taken for test distributed approximately uniformly along the specimen. Make no measurement on the selvage edge of the specimen.

13.4.2.2 Report the average of all measurements as the average thickness of the lot.

13.4.3 Linear Density:

13.4.3.1 From each roll taken for test, cut a specimen not less than 1.5 m (5 ft) in length and the full width of the tape, measuring the length of the specimen to the nearest 2.5 mm (0.1 in.), using a steel tape or rigid rule. Make sure that the specimen is free from tension, wrinkles, and folds. Weigh the specimen to the nearest 0.1 g (0.01 oz). Using the average length and mass, calculate the linear density (weight) in kg/100 m (lb/100 ft).

13.4.3.2 Report the average linear density (weight) in kg/100 m (lb/100 ft) as the linear density (weight) of the tape.

13.4.4 Fabric Count:

13.4.4.1 *Ends*—Determine the fabric count (warp yarn ends per 25 mm (1 in.) and filling yarn picks per 25 mm (1 in.) on one or more specimens from each sample roll as directed in Test Method D 3775.

13.4.4.2 *Picks*—Report the number of picks per 25 mm (1 in.) counted to the nearest individual warp yarn and the picks per 25 mm (1 in.) calculated to the nearest filling yarn.

13.4.4.3 Report the average number of picks per inch observed for all specimens.

13.5 Precision and Bias—Refer to Section 14.

13.6 Asbestos Content:

13.6.1 Determine the asbestos content of one or more specimens from each roll taken for test as directed in Test Method D 1918.

13.6.2 Report the average asbestos content as directed in Test Method D 1918.

13.7 Tensile (Breaking) Strength (Breaking Load):

13.7.1 Determine the breaking load, as directed in 13.7.2 and 13.7.3. Use a specimen about 150 mm (6 in.) long and a nominal gage length of 75 mm (3 in.). Use a constant rate of traverse type tensile testing machine operated at 300 ± 10 mm (12 ± 0.5 in.)/min. If agreed upon between the buyer and seller, a constant rate of elongation machine may be used.

13.7.2 *Tapes up to and Including 40 mm (1.5 in.) Wide*—Make five tests full width in the warp direction using clamps having a nominal width of 50 mm (2 in.).

13.7.3 *Tapes over 40 mm (1.5 in.) Wide*—Test five specimens taken in the warp direction by the Grab-Method as directed in Test Methods D 1682.

13.7.4 Report the average of the results as the breaking load of the lot tested.

14. Precision and Bias

14.1 *Interlaboratory Test Data*⁶—An interlaboratory test was run in 1974 in which randomly drawn samples of three materials were tested in four laboratories. One operator in each laboratory tested five specimens of each material. The components of variance expressed as standard deviations were calculated to be the values listed in Table 3.

14.2 *Critical Differences*—For the components of variance, two averages of observed values should be considered significantly different at the 95 % probability level if the difference equals or exceeds the critical differences listed in Table 4.

NOTE 1—The tabulated values of the critical differences and confidence limits should be considered to be a general statement particularly with respect to between-laboratory precision. Before a meaningful statement can be made about two specific laboratories, the amount of statistical bias, if any, between them must be established, with each comparison being based on recent data obtained on specimens randomly drawn from one sample of the material to be evaluated.

14.3 *Bias*—The true value of the properties listed in Table 3 and Table 4 can only be defined in terms of specific test methods. Within these limitations, the procedures in Specification D 315 for determining those properties have no known bias and are usually accepted in commerce.

⁶ ASTM Research Report RR: D-13-1048 is available on loan from ASTM Headquarters, 1916 Race St., Philadelphia, PA 19103.

TABLE 4 Critical Differences^A for the Conditions Noted and the Units Indicated

Property	Number of Observations	Units	Single-Operator Interlaboratory	
			Repeat-ability	Reproduc-ibility
Width	1	mm	1.99	2.19
		(in.)	(0.0784)	(0.0862)
	4	mm	0.996	1.35
Thickness		(in.)	(0.0392)	(0.0531)
	8	mm	0.704	1.15
		(in.)	(0.0277)	(0.0452)
Fabric count	1	mm	0.119	0.147
		(in.)	(0.0047)	(0.0058)
	4	mm	0.061	0.104
Warp		(in.)	(0.0024)	(0.0041)
	8	mm	0.043	0.094
		(in.)	(0.0017)	(0.0037)
Filling	1	number	0.54	0.97
	4	number	0.27	0.85
	8	number	0.19	0.83
Tensile (breaking) strength (breaking load)	1	number	0.50	0.66
	4	number	0.25	0.49
	8	number	0.18	0.46
Warp	1	N	60.54	208.3
		(lbf)	(13.61)	(46.83)
	4	N	30.25	201.6
Linear density (weight)		(lbf)	(6.80)	(45.32)
	8	N	21.40	200.5
		(lbf)	(4.81)	(45.07)
	1	kg/100 m	0.83	0.85
		(lb/100 ft)	(0.56)	(0.57)
	4	kg/100 m	0.42	0.49
		(lb/100 ft)	(0.28)	(0.33)
	8	kg/100 m	0.30	0.39
		(lb/100 ft)	(0.20)	(0.26)

^A The critical differences were calculated using $F = 1.960$, based on infinite degrees of freedom.

15. Rejection and Rehearing

15.1 The buyer and the seller may agree on a procedure to establish conformance, including control charts furnished by the seller, a sequential sampling plan, or the double-sampling plan outlined in 15.2.

15.2 In the absence of a control chart or sequential sampling plan, proceed as directed in 15.2.1 through 15.2.3.

15.2.1 If the test results for the lot conform to the requirements for all characteristics listed in 10.1.1 through 10.1.8, the lot shall be considered acceptable.

15.2.2 If the test results for one or more characteristics do not conform to the requirements, take a new laboratory sample from either the original lot sample or a new lot sample. Test the new sample for the characteristic(s) that did not conform to the requirements in the first test and average the results of the first and second samples as if they were one test of double the original number of specimens. If the new average(s) conform(s) to the specified requirements, the lot shall be considered acceptable.

15.2.3 If the test results obtained as directed in 15.2.2 do not conform to the specified requirements, the lot shall be considered unacceptable.

16. Packaging

16.1 *Standard Packages*—Asbestos tapes for electrical insulation (plain tapes up to and including 0.75 mm (0.03 in.) thick) are generally furnished in 30-mm (36-yard) rolls wound on bushings. Industrial tapes of 0.8-mm ($\frac{1}{32}$ -in.) and greater thickness are furnished in 30 and 50-mm (100 and 150 ft) rolls. See Table 5 and Table 6.

TABLE 5 Metallic (Wire-Inserted) Woven Asbestos Tape

Thickness		Width		Approximate Length per Unit Mass		Approximate Mass per Unit Length	
mm	(in.)	mm	(in.)	m/kg	(ft/lb)	kg/100 m	(lb/100 ft)
1.6	(1 / 16)	13	(0.5)	43	(64)	2.3	(1.6)
		20	(0.75)	28	(43)	3.5	(2.3)
		25	(1)	21	(32)	4.6	(3.1)
		30	(1.25)	16	(24)	6.2	(4.2)
		40	(1.5)	12	(19)	7.8	(5.3)
		50	(2)	10	(15)	9.0	(6.6)
		65	(2.5)	8.1	(12)	12	(8.3)
		75	(3)	6.7	(10)	15	(9.9)
		90	(3.5)	5.8	(8.6)	17	(12)
		100	(4)	5.1	(7.6)	20	(13)
		115	(4.5)	4.5	(6.7)	22	(15)
		130	(5)	4.1	(6.0)	25	(17)
		140	(5.5)	3.7	(5.5)	27	(18)
		150	(6)	3.5	(5.0)	30	(20)
3.2	(1 / 8)	20	(0.75)	11.4	(17)	8.8	(5.9)
		25	(1)	8.5	(13)	12	(7.9)
		30	(1.25)	7.3	(11)	14	(9.1)
		40	(1.5)	6.5	(10)	16	(10)
		50	(2)	4.4	(6.6)	23	(15)
		65	(2.5)	3.8	(5.6)	27	(18)
		75	(3)	3.0	(4.4)	34	(23)
		90	(3.5)	2.6	(3.8)	39	(26)
		100	(4)	2.3	(3.4)	44	(30)
		110	(4.5)	2.0	(3.0)	49	(33)
		130	(5)	1.8	(2.7)	54	(36)
		140	(5.5)	1.7	(2.5)	59	(40)
		150	(6)	1.6	(2.3)	65	(43)
6.4	(1 / 4)	25	(1)	4.8	(7.1)	21	(14)
		30	(1.25)	3.8	(5.7)	26	(18)
		40	(1.5)	3.2	(4.7)	32	(21)
		50	(2)	2.4	(3.5)	42	(28)
		65	(2.5)	1.9	(2.8)	53	(35)
		75	(3)	1.6	(2.3)	65	(44)
		90	(3.5)	1.3	(2.0)	74	(50)
		100	(4)	1.2	(1.8)	84	(56)
		110	(4.5)	1.1	(1.6)	93	(63)
		130	(5)	0.94	(1.4)	105	(70)
		140	(5.5)	0.87	(1.3)	115	(77)
		150	(6)	0.74	(1.1)	125	(87)

TABLE 6 Plain (Nonmetallic) Woven Asbestos Tape

Thickness		Width		Approximate Length per Unit Mass		Approximate Mass per Unit Length	
mm	(in.)	mm	(in.)	m/kg	(ft/lb)	kg/100 m	(lb/100 ft)
0.25	(0.01)	13	(0.5)	280	(420)	0.36	(0.24)
		20	(0.75)	200	(290)	0.51	(0.34)
		25	(1)	150	(220)	0.67	(0.45)
		30	(1.25)	120	(180)	0.82	(0.55)
		40	(1.5)	100	(160)	0.95	(0.64)
		45	(1.75)	90	(130)	1.1	(0.75)
		50	(2)	80	(120)	1.3	(0.85)
0.38	(0.015)	13	(0.5)	190	(280)	0.53	(0.36)
		20	(0.75)	130	(200)	0.74	(0.50)
		25	(1)	100	(150)	0.96	(0.65)
		30	(1.25)	85	(130)	1.2	(0.79)
		40	(1.5)	73	(110)	1.4	(0.93)
		45	(1.75)	67	(100)	1.5	(1.0)
		50	(2)	56	(84)	1.8	(1.2)
0.50	(0.020)	13	(0.5)	150	(220)	0.67	(0.45)
		20	(0.75)	110	(160)	0.94	(0.63)
		25	(1)	83	(120)	1.2	(0.81)
		30	(1.25)	68	(100)	1.5	(0.99)
		40	(1.5)	57	(85)	1.8	(1.2)
		45	(1.75)	49	(75)	2.0	(1.4)

TABLE 6 *Continued*

Thickness		Width		Approximate Length per Unit Mass		Approximate Mass per Unit Length	
mm	(in.)	mm	(in.)	m/kg	(ft/lb)	kg/100 m	(lb/100 ft)
0.65	(0.025)	50	(2)	44	(65)	2.3	(1.5)
		13	(0.5)	110	(170)	0.88	(0.59)
		20	(0.75)	80	(120)	1.3	(0.84)
		25	(1)	62	(90)	1.6	(1.1)
		30	(1.25)	50	(75)	2.0	(1.3)
		40	(1.5)	44	(65)	2.4	(1.6)
		45	(1.75)	37	(55)	2.7	(1.8)
		50	(2)	33	(50)	3.1	(2.0)
		60	(2.5)	25	(35)	4.0	(2.7)
0.75	(0.30)	75	(3)	21	(30)	4.7	(3.2)
		13	(0.5)	90	(130)	1.1	(0.75)
		20	(0.75)	61	(90)	1.6	(1.1)
		25	(1)	46	(70)	2.2	(1.5)
		30	(1.25)	38	(55)	2.6	(1.8)
		40	(1.5)	32	(50)	3.1	(2.1)
		45	(1.75)	27	(40)	3.6	(2.5)
		50	(2)	24	(35)	4.1	(2.8)
		60	(2.5)	19	(30)	5.3	(3.5)
0.80	(1 / 32)	75	(3)	16	(20)	6.3	(4.2)
		13	(0.5)	84	(125)	1.2	(0.80)
		20	(0.75)	57	(85)	1.8	(1.2)
		25	(1)	40	(60)	2.5	(1.7)
		30	(1.25)	34	(50)	3.0	(2.0)
		40	(1.5)	28	(40)	3.6	(2.4)
		45	(2)	22	(30)	4.6	(3.1)
		50	(2.25)	18	(25)	5.7	(3.8)
		75	(3)	15	(20)	6.7	(4.5)
1.60	(1 / 16)	13	(0.5)	55	(80)	1.8	(1.2)
		20	(0.75)	34	(50)	3.0	(2.0)
		25	(1)	27	(40)	3.7	(2.5)
		30	(1.25)	21	(30)	4.7	(3.2)
		40	(1.5)	18	(25)	5.7	(3.8)
		45	(2)	13	(20)	7.7	(5.2)
		50	(2.5)	10	(15)	9.8	(6.6)
		75	(3)	8.9	(13)	11	(7.6)
		90	(3.5)	7.5	(11)	13	(8.9)
		100	(4)	6.7	(9.9)	15	(10)
		115	(4.5)	5.9	(8.8)	17	(11)
		125	(5)	5.3	(7.9)	19	(13)
		140	(5.5)	4.8	(7.1)	21	(14)
		150	(6)	4.4	(6.6)	23	(15)

TABLE 6 *Continued*

Thickness		Width		Approximate Length per Unit Mass		Approximate Mass per Unit Length	
mm	(in.)	mm	(in.)	m/kg	(ft/lb)	kg/100 m	(lb/100 ft)
3.25	(1 / 8)	20	(0.75)	14	(21)	7.0	(4.7)
		25	(1)	11	(16)	9.4	(6.3)
		30	(1.25)	9.1	(14)	11	(7.3)
		40	(1.5)	8.1	(12)	12	(8.3)
		45	(2)	5.5	(8.2)	18	(12)
		50	(2.5)	4.7	(7.0)	21	(14)
		75	(3)	3.7	(5.5)	27	(18)
		90	(3.5)	3.2	(4.8)	31	(21)
		100	(4)	2.8	(4.2)	35	(24)
		115	(4.5)	2.6	(3.8)	39	(26)
		125	(5)	2.3	(3.4)	43	(29)
		140	(5.5)	2.1	(3.1)	48	(32)
		150	(6)	1.9	(2.9)	52	(35)
6.50	(1 / 4)	25	(1)	5.6	(8.3)	18	(12)
		30	(1.25)	4.5	(6.7)	22	(15)
		40	(1.5)	3.8	(5.6)	27	(18)
		45	(2)	2.8	(4.2)	36	(24)
		50	(2.5)	2.2	(3.3)	45	(30)
		75	(3)	1.9	(2.8)	54	(36)
		90	(3.5)	1.6	(2.4)	63	(42)
		100	(4)	1.4	(2.1)	71	(48)
		115	(4.5)	1.3	(1.9)	80	(54)
		125	(5)	1.1	(1.7)	89	(60)
		140	(5.5)	1.0	(1.5)	98	(66)
		150	(6)	0.94	(1.4)	110	(72)

17. Keywords

17.1 asbestos; tape; testing; textile; woven; woven asbestos
tape

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