Designation: D 2260 – 96

Standard Tables of Conversion Factors and Equivalent Yarn Numbers Measured in Various Numbering Systems[1]

This standard is issued under the fixed designation D 2260; 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 These tables include (*1*) a series of conversion factors required to convert the number of a yarn measured in a specific system to the equivalent number measured in various other systems (see Table 1), and (*2*) specific equivalent numbers for yarns measured in various systems (see Table 2).

1.2 The content is basically consistent with recommendations of the International Organization for Standardization (ISO) Standard 2947.

2. Referenced Documents

2.1 *ASTM Standards:*

D 123 Terminology Relating to Textiles[2]

D 861 Practice for Use of the Tex System to Designate Linear Density of Fibers, Yarn Intermediates, and Yarns[2]

E 380 Practice for Use of the International System of Units (SI) (the Modernized Metric System)[3]

2.2 *ISO Standard:*

ISO 2947, Textiles–Integrated Conversion Table for Replacing Traditional Yarn Numbers by Rounded Numbers in the Tex System[4]

2.3 *NIST Standard:*

NBS–M–121–January, 1936[5]

3. Terminology

3.1 *Definitions:*

3.1.1 *American grain count*—a direct yarn numbering system for expressing linear density, equal to the mass in grains per 120 yd of sliver or roving.

3.1.2 *cotton count*, *n*—the number of 840-yd lengths of yarn per pound; an indirect yarn numbering system generally used for yarns spun on the cotton system (syn. English cotton count).

3.1.3 *cut*, *n*—*in asbestos and glass yarns*, the number of 100-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.4 *cut*, *n*—*in wool yarns*, the number of 300-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.5 *denier*, *n*—a direct yarn numbering system for expressing linear density, equal to the mass in grams per 9000 m of yarn, filament, fiber, or other textile strand.

3.1.6 *direct yarn numbering system*, *n*—a system that expresses yarn number in mass per unit length or linear density. (See also *denier*, *grex*, *linear density*, *spyndle number*, and *tex.*)

3.1.7 *grain*, *n*—a direct yarn numbering system sometimes used for expressing linear density in which the yarn number is equal to the mass in grains of 120 yd of sliver, top, or roving.

3.1.8 *grain*, *n*—*in measuring mass*, 1/7000 lb avoirdupois.

3.1.9 *grex*, *n*—an obsolete direct numbering system for expressing linear density, equal to the mass in grams per 10 000 m of yarn, filament, fiber, or other textile strand.

3.1.10 *indirect yarn numbering system*, *n*—a system that expresses yarn number in length per unit mass or the reciprocal of linear density. (See also *cotton count*; *metric count*; *worsted count*; *cut*, *hank*, *lea*, *run*, and *typp.*)

3.1.11 *linear density*, *n*—mass per unit length; the quotient obtained by dividing the mass of a fiber or yarn by its length.

3.1.12 *linen lea*, *n*—the number of 300-yd lengths of yarn per pound; an indirect yarn numbering system.

3.1.13 *metric count*, *n*—the number of metres of yarn per gram; an indirect yarn numbering system.

3.1.14 *run*, *n*—*in the woolen system*, the number of 1600-yd lengths of yarn per pound; an indirect yarn numbering system generally used for yarns spun on the woolen system.

3.1.15 *tex*, *n*—a unit for expressing linear density, equal to the mass in grams of 1 km of yarn, filament, fiber, or textile strand.

3.1.16 *typp*, *n*—the number of 1000-yd lengths of yarn per pound; an obsolete indirect yarn numbering system.

3.1.17 *worsted count*, *n*—the number of 560-yd lengths of yarn per pound; an indirect yarn numbering system generally used for yarns spun on the worsted system.

3.1.18 *yarn number*, *n*—a measure of the fineness or size of a yarn expressed either as "mass per unit length" or "length per unit mass," depending upon the yarn numbering system used. (See also *yarn linear density.*)

3.1.19 *yarn numbering system*, *n*—a system expressing the

[1] These tables are under the jurisdiction of ASTM Committee D-13 on Textiles, and are the direct responsibility of Subcommittee D13.58 on Yarn Test Methods, General.

Current edition approved Nov. 10, 1996. Published March 1997. Originally published as D2260 – 64. Last previous edition D2260 – 95.

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

[3] Excerpts from E380, Standard for Metric Practice, can be found in the *Annual Book of ASTM Standards*, Vols 07.01 and 07.02. The standard is available as a separate publication and appears in its entirety in Vol 14.02.

[4] American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036.

[5] Available from National Institute of Standards and Technology, Gaithersburg, MD 20899.

TABLE 1 Conversion Factors for Converting from One Yarn Numbering System to Another[A]

System for Which Yarn Number is Needed		System for Which Yarn Number is Known								
		Tex[B]	Denier	American Grain Count	Cotton Count	Worsted Count	Woolen Run	Metric Count	Linen Lea Woolen Cut	Yd/lb
Tex[B] (g/1000 m)	tex =	...	$\frac{\text{den}}{9}$	0.590 541 × gr	$\frac{590.541}{\text{cc}}$	$\frac{885.812}{\text{wc}}$	$\frac{310.034}{\text{wr}}$	$\frac{1\ 000}{\text{mc}}$	$\frac{1\ 653.52}{\text{lea}}$	$\frac{496\ 055}{\text{y}}$
Denier (g/9000 m)	den =	9 × tex	...	5.314 87 × gr	$\frac{5\ 314.87}{\text{cc}}$	$\frac{7\ 972.31}{\text{wc}}$	$\frac{2\ 790.31}{\text{wr}}$	$\frac{9\ 000}{\text{mc}}$	$\frac{14\ 881.6}{\text{lea}}$	$\frac{4\ 464\ 492}{\text{y}}$
American Grain Count (grains/120 yd)	gr =	$\frac{\text{tex}}{0.590\ 541}$	$\frac{\text{den}}{5.314\ 87}$	...	$\frac{1\ 000}{\text{cc}}$	$\frac{1\ 500}{\text{wc}}$	$\frac{525}{\text{wr}}$	$\frac{1\ 693.36}{\text{mc}}$	$\frac{2\ 800}{\text{lea}}$	$\frac{840\ 000}{\text{y}}$
Cotton count (840 yd lengths/lb)	cc =	$\frac{590.541}{\text{tex}}$	$\frac{5\ 314.87}{\text{den}}$	$\frac{1\ 000}{\text{gr}}$	...	$\frac{\text{wc}}{1.5}$	$\frac{\text{wr}}{0.525}$	0.590 541 × mc	$\frac{\text{lea}}{2.8}$	$\frac{\text{y}}{840}$
Worsted count (560 yd lengths/lb)	wc =	$\frac{885.812}{\text{tex}}$	$\frac{7\ 972.31}{\text{den}}$	$\frac{1\ 500}{\text{gr}}$	1.5 × cc	...	$\frac{\text{wr}}{0.35}$	0.885 812 ×mc	$\frac{\text{lea}}{1.866\ 67}$	$\frac{\text{y}}{560}$
Woolen run (1600 yd lengths/lb)	wr =	$\frac{310.034}{\text{tex}}$	$\frac{2\ 790.31}{\text{den}}$	$\frac{525}{\text{gr}}$	0.525 × cc	0.35 × wc	...	0.310 034 × mc	0.187 5 ×lea	$\frac{\text{y}}{1\ 600}$
Metric count (1000 m/kg)	mc =	$\frac{1\ 000}{\text{tex}}$	$\frac{9\ 000}{\text{den}}$	$\frac{1\ 693.36}{\text{gr}}$	$\frac{\text{cc}}{0.590\ 541}$	$\frac{\text{wc}}{0.885\ 812}$	$\frac{\text{wr}}{0.310\ 034}$	...	$\frac{\text{lea}}{1.653\ 52}$	$\frac{\text{y}}{496.055}$
Linen lea (300 yd lengths/lb)	lea =	$\frac{1\ 653.52}{\text{tex}}$	$\frac{14\ 881.6}{\text{den}}$	$\frac{2\ 800}{\text{gr}}$	2.8 × cc	1.866 67 × wc	0.187 5 × wr	1.653 52 × mc	...	$\frac{\text{y}}{300}$
Yards per pound (yd/lb)	y =	$\frac{496\ 055}{\text{tex}}$	$\frac{4\ 464\ 492}{\text{den}}$	$\frac{840\ 000}{\text{gr}}$	840 × cc	560 × wc	1600 × wr	496.055 × mc	300 × lea	...

[A] The conversion factors are based on the following relationships given in Metric Practice E 380: 1 yard = 0.9144 m, exactly, and 1 lb (avoirdupois) = 0.453 592 37 kg, exactly. The conversion factors in Table 1 containing fewer than six significant digits are exact values.

[B] Multiples and submultiples of this basic unit may be used as a convenience to avoid large numbers or decimal fractions. For example, decitex (dtex) or tex × 10 is suitable for fine yarns and fibers; millitex (mtex) or tex × 1000 is suitable for fibers; while kilotex (ktex) or tex/1000 is often used for ropes, cords, rovings, tops, and slivers.

Examples of Table 1 use:

1) The English worsted count equivalent to a cotton count of 10 is 1.5 times 10, or 15 English worsted count.
2) The cotton count equivalent to 30 tex is 590.54 divided by 30, or 19.7 cotton count.

size of a yarn as a relationship between its length and associated mass. (See also *yarn number, yarn linear density, direct yarn numbering system, indirect yarn numbering system.*)

3.1.20 For definitions of other textile terms used in these Tables, refer to Terminology D 123.

4. Conversion Factors for Equivalent Yarn Numbers

4.1 Calculate any equivalent value using the appropriate factor listed in Table 1.

5. Use of Previously Calculated Equivalent Yarn Numbers

5.1 For a specific number in a stated system, read the equivalent in the various other systems from Table 2.

5.2 With a few exceptions, fractional traditional indirect counts have been omitted from Table 2; the rounded tex system values for most fractional traditional indirect counts can be obtained by interpolation.

6. Implementation of the Tex Yarn Numbering System

6.1 In Table 2, to encourage the implementation of the tex system in the United States, rounded tex values were chosen to accommodate as many yarn numbers as possible for the traditional yarn numbering systems without encroaching on established tolerances. In addition to the rounded tex system values, the decitex (dtex) equivalents have been included because they can be used throughout most of the count range without employing decimal fractions. The choice of unit is entirely a matter to be determined by each sector of the trade; decitex, for example, is particularly suitable for fine yarns (whether spun or filament) and tex for medium and coarse yarns.

7. Derivation of Data in Table 2

7.1 Tables 1 and 2 are based on the following exact equivalents:

7.1.1 1 yd = 0.9144 m.

7.1.2 1 lb = 453.592 37 g.

7.1.3 1 lb = 7000 grains.

7.2 The following conversion factors have been computed where *y* = yards per pound.

7.2.1 Woolen run (wr) = *y*/1600.

7.2.2 cotton count (cc) = *y*/840.

7.2.3 denier (den) = 4 464 492/*y*.

7.2.4 Worsted count (wc) = *y*/560.

7.2.5 American grain count per 120 yd (gr) = 840 000/*y*.

7.2.6 linen lea (lea) = *y*/300.

7.2.7 metric count (mc) = *y*/496.055.

7.2.8 tex (tex) = 496 055/*y*.

7.2.9 For the *woolen* system, use the column and row headed *linen lea*.

7.3 The data in Table 2 was derived using the National Institute of Standards and Technology values in the NIST Circular M121, January, 1936. Based on current values, when calculating yards per pound for a specified denier, the table will understate the value by 12 yd out of 4.5 million yd or 11 m out of 4.1 million m. When calculating yards per pound for a specified tex value, the table will understate the value by 5 yd out of 0.5 million yd or 4.6 m out of 0.46 million m. Therefore, those who need more precise data for denier and tex should recalculate the data needed using the current values in Table 1.

8. Keywords

8.1 yarn number; yarns per pound

TABLE 2 Equivalent Yarn Number Conversion Table

NOTE 1—In any row with a boldface type number, the other equivalents are computed from the boldface value to the nearest four significant figures.

Exact Equivalent	yd/lb for Rounded Tex-Value[A]	Cotton Count	Indirect Systems: Worsted Count	Woolen Run	Linen Woolen Cut	Metric Count	Direct Systems: American Grain Count	Denier	Rounded Value	Rounded Value	Deviation[B]
dtex	yd/lb	cc	wc	wr	lea	mc	gr	den	tex	dtex	%
1.111	4 465 000	[C]	[C]	[C]	[C]	[C]	0.188	1.00	0.11	1.1	−1.0
1.333		[C]	[C]	[C]	[C]	[C]		1.2	0.13	1.3	−2.5
1.444		[C]	[C]	[C]	[C]	[C]		1.3	0.14	1.4	−3.1
1.667		[C]	[C]	[C]	[C]	[C]		1.5	0.17	1.7	+2.0
1.889		[C]	[C]	[C]	[C]	[C]		1.7	0.19	1.9	+0.6
2.000	2 232 000	[C]	[C]	[C]	[C]	[C]		1.8	0.20	2.0	0.0
2.222		[C]	[C]	[C]	[C]	[C]	0.376	2.00	0.22	2.2	−1.0
2.444		[C]	[C]	[C]	[C]	[C]		2.2	0.24	2.4	−1.8
2.556		[C]	[C]	[C]	[C]	[C]		2.3	0.26	2.6	+1.7
2.778		[C]	[C]	[C]	[C]	[C]		2.5	0.27	2.8	+0.8
3.000		[C]	[C]	[C]	[C]	[C]		2.7	0.30	3.0	0.0
3.333		[C]	[C]	[C]	[C]	[C]		3.00	0.33	3.3	−1.0
3.556		[C]	[C]	[C]	[C]	[C]		3.2	0.36	3.6	+1.2
4.000		[C]	[C]	[C]	[C]	[C]		3.6	0.40	4.0	0.0
4.111		[C]	[C]	[C]	[C]	[C]		3.7	0.41	4.1	−0.3
4.444		[C]	[C]	[C]	[C]	[C]		4.00	0.44	4.4	−1.0
4.667		[C]	[C]	[C]	[C]	[C]		4.2	0.47	4.7	+0.7
5.000		[C]	[C]	[C]	[C]	[C]		4.5	0.50	5.0	0.0
5.555	893 000	[C]	[C]	[C]	[C]	[C]	0.941	5.00	0.56	5.6	+0.7
6.111		[C]	[C]	[C]	[C]	[C]	0.9406	5.5	0.61	6.1	−0.2
6.667		[C]	[C]	[C]	[C]	[C]		6.00	0.67	6.7	−0.5
7.778		[C]	[C]	[C]	[C]	[C]		7.00	0.78	7.8	+0.3
7.889		[C]	[C]	[C]	[C]	[C]		8.00	0.89	8.9	+0.1
10.00	496 055	[C]	[C]	[C]	[C]	[C]	1.693	9.00	1.0	10	0
11.00	450 959	[C]	[C]	[C]	[C]	[C]	1.881	10.00	1.1	11	−1.0
12.22	413 379	[C]	[C]	[C]	[C]	[C]		11	1.2	12	−1.8
13.33	381 581	[C]	[C]	[C]	[C]	[C]		12	1.3	13	−2.5
15.56	310 034	[C]	[C]	[C]	[C]	[C]		14	1.6	16	+2.8
16.67	291 797	[C]	[C]	[C]	[C]	[C]		15	1.7	17	+2.0
20.00	248 028	[C]	[C]	[C]	[C]	[C]	3.387	18.00	2.0	20	0
22.22	225 480	[C]	[C]	[C]	[C]	[C]	3.763	20.00	2.2	22	−1.0
25.56	190 790							23	2.6	26	+1.7
27.78	177 162							25	2.8	28	+0.8
30.00	165 352	196.8	295.3	103.3	551.1	333.3	5.080	27.00	3.0	30	0
31.11	160 018							28	3.1	31	−0.4
33.33	150 320	177.1	265.7	93.00	496.0	300.0	5.645	30.00	3.3	33	−1.0
35.56	141 730							32	3.5	35	−1.6
38.89	124 014							35	4.0	40	+2.8
40.00	121 191	147.6	221.4	77.51	413.4	250.0	6.774	36.00	4.0	40	0
44.44	112 740	132.9	199.3	69.75	372.0	225.0	7.527	40.00	4.4	44	−1.0
45.00	110 200	131.2	196.8	68.89	367.4	222.2	7.620	40.50	4.5	45	0
47.78	103 345							43	4.8	48	+0.5
49.21	100 800	120.0	180.0	63.00	336.0	203.2	8.333	44.29	4.9	41	+1.6
50.00	99 211	118.1	177.2	62.01	330.7	200.0	8.466	45.00	5.0	50	0
50.04		118									−0.1
50.91	97 266	116							5.1	51	+0.2
51.35		115									+1.3
51.80	95 395	114							5.2	52	+0.4
52.22								47			−0.4
52.72	93 595	112							5.3	53	+0.5
53.68		110									−1.3
54.68	90 192	108							5.5	55	+0.6
50.91		116.0	174.0	60.90	324.8	196.4	8.621	45.82	5.1	51	
53.69		110.0	165.0	57.75	308.0	186.3	9.091	48.32	5.4	54	
55.00		107.4	161.1	56.37	300.6	290.9	9.314	49.50	5.5	55	
55.56		106.3	159.5	55.81	297.7	180.0	9.406	50.00	5.6	56	+0.8

TABLE 2 *Continued*

Exact Equivalent	yd/lb for Rounded Tex-Value[A]	Cotton Count	Indirect Systems				Direct Systems				Deviation[B]
			Worsted Count	Woolen Run	Linen Woolen Cut	Metric Count	American Grain Count	Denier	Rounded Value	Rounded Value	
dtex	yd/lb	cc	wc	wr	lea	mc	gr	den	tex	dtex	%
55.71	88 581	106							5.6	56	+0.5
56.24		105									−0.4
56.78	87 027	104							5.7	57	+0.4
57.78								52			+0.4
57.89		102									+0.2
58.00	85 527								5.8	58	0
59.05	84 077	100.0	150.0	52.50	28.00	169.3	10.00	53.15	5.9	59	−0.1
60.00		98.42	147.6	51.67	275.6	166.7	10.16	54.00	6.0	60	0
60.26	82 676	98							6.0	60	−0.4
61.10		96.64	145.0	50.74	270.6	163.7	10.35	55.00	6.1	61	0
61.51		96									+0.8
62.16	80 009	95							6.2	62	−0.3
62.22								56			−0.4
62.82	78 739	94							6.3	63	+0.3
64.18	77 509	92							6.4	64	−0.3
65.00		90.85	136.3	47.70	254.4	153.8	11.01	58.50	6.5	65	0
65.61	75 160	90.00	135.0	47.25	252.0	152.4	11.11	59.06	6.6	66	+0.6
67		88.59	132.9	46.51	248.0	150.0	11.29	60.00	6.7	66.66	
67.10	74 038	88							6.7	67	−0.1
69.47	71 892	86							6.9	69	+0.7
69.47		85									+0.8
70.00	70 865	84.36	126.5	44.29	236.2	142.29	11.85	63.00	7.0	70	0
70.30		84									−0.4
72.01	69 867	82							7.1	71	−1.4
72.22	68 897	81.98	122.7	42.94	229.0	138.5	12.23	65.00	7.2	72	−0.3
73.82	67 034	80.00	120.0	42.00	224.0	135.5	12.50	66.44	7.4	74	+0.3
74.75	66 141	79							7.5	75	+0.3
75.00		78.74	118.1	41.34	220.5	133.3	12.70	67.50	7.5	75	4
75.07		78.67	118.0	41.30	220.3	133.2	12.71	67.57	7.5	75	4
75.16		78.57	117.9	41.25	220.0	133.0	12.73	67.65	7.5	75	4
75.62		78.10	117.1	41.00	218.7	132.2	12.80	68.06	7.6	76	4
75.71	65 270	78.00	117.0	40.95	218.4	132.1	12.82	68.14	7.6	76	+0.4
76.34		77.36	116.0	40.61	216.6	131.0	12.93	68.71	7.6	76	2
76.55		77.14	115.7	40.50	216.0	130.6	12.96	68.90	7.7	77	2
76.69	64 423	77.00	115.5	40.42	215.6	130.4	12.99	69.03	7.7	77	+0.4
77.78		75.93	113.9	39.86	212.6	128.6	13.17	70.00	7.8	78	+0.3
77.70		76.00	114.0	39.90	212.8	128.7	13.16	69.94	7.8	78	+0.4
78.00	63 597	75.72	113.6	39.75	212.0	128.2	13.21	70.20	7.8	78	0
78.74	62 792	75.00	112.5	39.38	210.0	127.0	13.33	70.87	7.9	79	+0.3
79.09		74.67	126.4	39.20	209.1	126.4	13.39	71.19	7.9	79	
79.50		74.29	125.8	39.00	208.0	125.8	13.46	71.53	8.0	80	
79.80	62 007	74.00	111.0	38.85	207.2	125.3	13.51	71.83	8.0	80	+0.3
80.00		73.82	125.0	38.75	206.7	125.0	13.56	72.00	8.0		80
80.53		73.33	124.2	38.50	205.3	124.2	13.64	72.48	8.0	81	
80.90	61 241	73.00	109.5	38.32	204.4	123.6	13.70	72.81	8.1	81	+0.1
81.05		72.86	123.4	38.25	204.0	123.4	13.73	72.95	8.1	81	
81.59		72.38	122.6	38.00	202.7	122.6	13.82	73.43	8.2	82	
82.02	60 495	72.00	108.0		201.6	121.9	13.89	73.82	8.2	82	0
82.68		71.45	121.0	32.51	200.1	121.0	14.00	74.39	8.3	83	
82.68		71.43	121.0	37.50	200.0	121.0	14.00	74.41	8.3	83	
83.17		71.00	106.5	37.28	198.8	120.2	14.08	74.96	8.3	83	+1.0
83.33	59 054	70.87	106.3	37.21	198.4	120.0	14.11	75.00	8.3	83	+0.8
83.57		70.67	119.7	37.10	197.9	119.7	14.15	75.22	8.4	84	
83.79		70.48	119.3	37.00	197.3	119.3	14.19	75.42	8.4	84	
84.36		70.00	105.0	36.75	196.0	118.5	14.29	75.93	8.4	84	−0.4
85.00		69.49	117.6	36.47	194.5	117.6	14.38	76.50	8.5	85	
85.17		69.33	117.4	36.40	194.1	117.4	14.42	76.66	8.5	85	
85.58	58 359	69.00	103.5	36.22	193.2	116.8	14.49	77.03	8.5	86	−0.7

TABLE 2 *Continued*

Exact Equivalent	yd/lb for Rounded Tex-Value[A]	Cotton Count	Indirect Systems			Direct Systems					Deviation[B]
			Worsted Count	Woolen Run	Linen Woolen Cut	Metric Count	American Grain Count	Denier	Rounded Value	Rounded Value	
dtex	yd/lb	cc	wc	wr	lea	mc	gr	den	tex	dtex	%
86.12		68.57	116.1	36.00	192.0	116.1	14.58	77.51	8.6	86	
86.84	57 018	68.00	102.0	35.70	190.4	115.1	14.71	78.17	8.7	87	+0.2
87.95		67.14	100.7	35.25	188.0	113.7	14.89	79.16	8.8	88	
88.14	56 370	67.00	100.5	35.14	187.5	113.5	14.93	79.16	8.8	88	−0.1
88.58		66.67	100.0	35.00	186.7	112.9	15.00	79.43	8.9	89	
88.88		66.44	99.66	34.88	186.0	112.5	15.05	80.00	8.9	89	+1.2
89.48		66.00	99.00	34.68	184.8	111.8	15.15	80.53	8.9	89	+0.6
88.90		66.43	99.64	34.88	186.0	112.5	15.05	80.02	8.9	89	
90.00	55 117	65.62	98.42	34.45	183.7	111.1	15.24	81.00	9.0	90	0
89.86		65.72	98.57	34.50	184.0	111.3	15.22	80.88	9.0	90	
90.39		65.33	98.00	34.30	182.9	110.6	15.31	81.36	9.0	90	
90.85	54 512	65.00	97.50	34.13	182.0	110.1	15.38	81.77	9.1	91	+0.2
91.29		64.76	92.14	34.00	181.3	109.7	15.44	82.07	9.1	91	
91.86		64.29	96.43	33.75	180.0	108.9	15.56	82.68	9.2	92	
92.27	53 919	64.00	96.00	33.6	179.2	108.4	15.63	83.05	9.2	92	−0.3
93.74	52 772	63.00	94.50	33.08	176.4	106.7	15.87	84.37	9.4	94	+0.3
93.95		62.86	94.28	33.00	176.0	106.4	15.91	84.56	9.4	94	
94.95		62.27	94.00	32.90	175.5	106.1	15.96	84.82	9.5	95	
95.00		62.16	93.24	32.63	174.0	105.3	16.08	85.50	9.5	95	
95.23	52 216	62.01	93.02	32.56	173.6	105.0	16.31	85.71	9.5	95	−0.3
95.25		62.00	93.00	32.55	173.6	105.2	16.73	85.73	9.8	95	
96.13		61.43	92.14	32.25	172.0	104.0	16.28	86.53	9.6	96	
96.28		61.33	92.00	32.20	171.7	103.9	16.30	86.66	9.6	96	
96.81	51 140	61.00	91.50	32.02	170.8	103.3	16.34	87.14	9.7	97	+0.2
96.88		60.95	91.43	32.00	170.7	103.2	16.41	87.20	9.7	97	
98.41		60.00	90.00	31.50	168.0	101.6	16.67	88.57	9.8	98	+1.6
100.0	49 606	59.05	88.57	31.00	165.3	100.0	16.94	90.00	10.0	100	0
100.1		59.00	88.50	30.98	165.2	99.94	16.95	90.07	10.0	100	−0.1
100.4		58.67	88.00	30.80	164.3	99.36	17.04	90.58	10.0	100	
100.8		58.57	87.86	30.75	164.0	99.20	17.07	90.72	10.1	101	
101.8	48 633	58.00	87.00	30.45	162.4	98.23	17.24	91.62	10.2	102	+0.2
103.0		57.33	86.00	30.10	160.5	97.10	17.44	92.68	10.3	103	
103.3		57.14	85.71	30.00	160.0	96.78	17.50	92.99	10.3		
103.6		57.00	85.50	29.92	159.6	96.52	17.54	93.23	10.4	104	+1.3
105.0	47 243	56.24	84.36	29.52	157.5	95.23	17.78	94.51	10.5	105	0
105.4		56.00	84.00	29.40	156.8	94.84	17.86	94.89	10.5	105	−0.4
106.0		55.72	83.57	29.25	156.0	98.36	17.95	95.38	10.6	106	
106.9		55.24	82.86	29.00	154.7	93.55	18.10	96.20	10.7	107	
107.4	45 931	55.00	82.50	28.88	154.0	93.17	18.18	96.63	10.7	107	+0.6
108.0		54.67	82.00	28.70	153.1	92.59	18.29	92.20	10.8	108	
108.6		54.29	81.43	28.50	152.0	91.53	18.42	97.87	10.9	109	
109.3		54.00	81.00	28.35	151.2	91.46	18.52	98.41	10.9	109	+0.5
110.0	45 096	53.69	80.54	28.19	105.3	90.92	18.63	99.00	11.0	110	0
110.7		53.33	80	28.00	149.3	90.33	18.75	99.63	11.1	111	−0.6
111.1		53.14	79.71	27.90	148.8	90.00	18.81	100.00	11.1	111	−1.0
111.4	44 520	53.00	79.50	27.82	148.4	89.75	18.87	100.3			+0.5
111.7	44 400	52.86	79.28	22.75	146.0	89.52	18.92	100.65			
112.1	44 291		79						11.2	112	−0.1
113.6	43 680	52.00	78.00	27.30	145.6	88.07	19.23	102.2			+1.2
114.8	43 200	51.43	77.14	27.00	144.0	87.10	19.44	103.3			
115.0	43 130	51.35	77.02	26.96	143.8	86.95	19.48	103.5	11.5	115	0
115.8	42 840	51.00	76.50	26.78	142.8	86.39	19.61	104.2			+1.0
116.6	42 560	50.67	76.00	26.60	141.9	85.81	19.74	104.9			+0.3
117.0	42 398								11.7	117	0
118.1	42 000	50.00	75.00	26.25	140.0	84.68	20.00	106.3			+1.6
119.2	41 600	49.52	74.28	26.00	138.7	83.88	20.19	107.3			+0.1
119.7	41 440	49.33	74.00	25.90	138.1	83.56	20.27	107.7			+0.3

TABLE 2 *Continued*

Exact Equivalent	yd/lb for Rounded Tex-Value[A]	Cotton Count	Indirect Systems			Direct Systems					Deviation[B]
			Worsted Count	Woolen Run	Linen Woolen Cut	Metric Count	American Grain Count	Denier	Rounded Value	Rounded Value	
dtex	yd/lb	cc	wc	wr	lea	mc	gr	den	tex	dtex	%
120.0	41 340	49.22	73.82	25.84	137.8	83.34	20.32	108.0	12	120	0
120.4	41 160	49.00	73.50	25.72	137.2	82.97	20.41	108.5			
120.5		49.00									−0.4
121.3	40 660		73						12.2	122	+0.6
121.6	40 800	48.57	72.86	25.50	136.0	82.26	20.59	109.4			+1.6
123.0	40 320	48.00	72.00	25.20	134.4	81.30	20.83	110.7			+0.8
124.0	40 000	47.62	71.43	25.00	133.3	80.65	21.00	111.6			+0.5
124.4								112			+0.2
124.8			71								
125.0	39 680	47.24	70.86	24.80	132.3	79.99	21.17	112.5	12.5	125	0
125.2	39 600	47.14	70.71	24.75	132.0	79.84	21.21	112.7			
125.6		47									−0.5
125.7	39 480	47.00	70.50	24.68	131.6	79.62	21.28	113.1			
126.5			70								−1.2
126.6	39 200	46.67	70.00	24.50	130.7	79.04	21.43	113.9			−1.8
127.2					130						
128.3	38 640	46.00	69.00	24.15	128.8	77.91	21.74	115.5			+1.2
128.4		46	69								+0.7
129.1	38 400	45.71	68.57	24.00	128.0	77.42	21.88	116.2			
130.0	38 160	45.43	68.14	23.85	127.2	76.93	22.01	117.0			
130.2	38 080	45.33	68.00	23.80	126.9	76.78	22.06	117.2			
130.3	38 158		68						13	130	−0.2
131.2	37 800	45.00	67.50	23.62	126.0	76.20	22.22	118.1			−0.9
132.2			67								−1.7
133.3	37 200	44.29	66.42	23.25	124.0	75.00	22.58	120.0			
134.2	36 960	44.00	66.00	23.10	123.2	74.52	22.73	120.8			+0.6
134.8	36 800	43.81	65.71	23.00	122.7	74.20	22.83	121.3			+0.1
135.0	36 745								13.5	135	0
136.3			65								−1.0
137.3	36 120	43.00	64.50	22.57	120.4	72.82	23.26	123.6			−1.7
137.8	36 000	42.86	64.28	22.50	120.0	72.59	23.33	124.0			+1.6
138.3	35 840	42.67	64.00	22.40	119.5	72.26	23.44	124.5			
138.4			64								+1.1
138.9	35 700	42.50	63.75	22.31	119.0	71.98	23.53	125.0	14	140	+0.8
140.0	35 430	42.18	63.27	22.14	118.1	71.42	23.71	126.0			
140.6	35 280	42.00	63.00	22.05	117.6	71.13	23.81	126.5			−0.4
140.9	35 200	41.90	62.86	22.00	117.3	70.97	23.86	126.8			−0.6
142.6	34 800	41.43	62.14	21.75	116.0	70.17	24.14	128.3			
142.9	34 720	41.33	62.00	21.70	115.7	70.00	24.19	128.6			+1.4
144.0	34 440	41.00	61.50	21.52	114.8	69.44	24.39	129.6			+0.7
145.0	34 211								14.5	145	0
145.2			61								−0.1
147.6	33 600	40.00	60.00	21.00	112.0	67.74	25.00	132.8			−1.8
150.0	33 070	39.33	59.06	20.65	110.2	66.69	25.40	135.0			0
150.1			59								−0.1
150.3	33 070				110				15	150	−0.2
151.3	32 760	39.00	58.50	20.48	109.2	66.05	25.64	136.2			
151.4		39									−0.9
152.7	32 480	38.67	58.00	20.30	108.3	65.49	25.86	137.4			+1.5
153.1	32 400	38.57	57.86	20.25	108.0	65.33	25.93	137.8			
155.0	32 000	38.09	57.14	20.00	106.7	64.52	26.25	139.5	15.5	155	0
155.3	31 920	38.00	57.00	19.95	106.4	64.36	26.32	139.8			
155.4		38	57								−0.3
158.1	31 360	37.33	56.00	19.60	104.5	63.23	26.78	142.3			
158.2			56								+1.1
159.0	31 200	37.14	55.71	19.50	104.0	62.91	26.92	143.1			
159.6	31 080	37.00	55.55	19.42	103.6	62.66	27.03	143.6	16	160	+0.3
160.0	31 000	36.91	55.36	19.38	103.3	62.49	27.10	144.0			