Designation: D 3823 – 94

Standard Practice for Determining Ticket Numbers for Sewing Threads[1]

This standard is issued under the fixed designation D 3823; 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 practice establishes standard ticket numbers for sewing thread regardless of fiber content or type of thread.

1.2 The values stated in inch-pound units are to be regarded as the standard; the values in English units are provided as information only and are not exact equivalents.

1.3 *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 Textiles[2]

D 204 Methods of Testing Sewing Threads[2]

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

2.2 *Military Standard:*

MIL-STD-105E Sampling Procedures and Tables for Inspection by Attributes[3]

3. Terminology

3.1 *Definitions:*

3.1.1 *greige thread*, *n*—unfinished sewing thread after final plying or an equivalent step in a processing sequence such as extruding, texturing or braiding.

3.1.2 *sewing thread*, *n*—a flexible small diameter yarn or strand, usually treated with a surface coating, lubricant, or both, intended to be used to stitch one or more pieces of material or an object to a material.

3.1.3 *ticket number*, *n*—the tex number assigned to a sewing thread to designate its approximate linear density.

3.1.3.1 *Discussion*—The ticket number is an indicator of the minimum amount of fiber present. The smaller the number, the finer the thread (lesser amount of fiber); and the larger the number, the coarser the thread (greater amount of fiber).

3.1.4 For definitions of other textile terms used in this practice, refer to Terminology D 123. For other definitions of terms relating to thread, refer to Methods D 204.

4. Significance and Use

4.1 This system of sewing thread ticket numbers was developed to overcome the confusion arising from the use by the thread industry of a multiple number of undefined and unrelated ticketing systems.

4.2 The practice is used by the thread manufacturer to determine the ticket number to be assigned to a thread. The ticket number is an indicator of the amount of raw fiber in the thread. It is based on greige thread rather than finished thread because finishing processes such as bleaching, dyeing, stretching, mercerizing, or sewing finish application significantly change the apparent thread size so that it may become an inadequate indicator of raw fiber present. Because of the foregoing it is not practical to verify the ticket number by sizing the finished thread.

4.3 The ticket number shall be based on average resultant yarn number and shall be designated as indicated in Table 1.

5. Sampling

5.1 *Lot*—Unless otherwise agreed upon between the purchaser and supplier, a lot shall be a discrete manufacturing unit produced in a given period of time not to exceed a calendar month.

5.2 *Lot Sample*—Select the number of specimens as directed in MIL-STD-105E using single sampling with a general inspection level of S1 and a 1.0 AQL.

5.3 *Laboratory Sample*—As a laboratory sample for acceptance testing, take each unit in the lot sample.

5.4 *Test Specimens*—From each package in the laboratory sample, take one specimen.

6. Requirements

6.1 Thread ticket numbers shall be based on average resultant yarn number and shall be designated as indicated in Table 1.

7. Procedure

7.1 Determine in tex the resultant yarn number of the greige thread as directed in Methods D 204.

7.2 Over the most recent 6 months of a 1-year period in which the greige thread was manufactured, collect at least 100 pairs of data, each consisting of a tex value and the production rate at the time each tex value was obtained. If the greige

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

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

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

TABLE 1 Thread Ticket Number

Resultant Yarn Number, Tex[A]	Ticket Number
Up to but not including 2	1
2 to but not including 3	2
3 to but not including 4	3
4 to but not including 5	4
5 to but not including 6	5
6 to but not including 7	6
7 to but not including 8	7
8 to but not including 9	8
9 to but not including 10	9
10 to but not including 12	10
12 to but not including 14	12
14 to but not including 16	14
16 to but not including 18	16
18 to but not including 21	18
21 to but not including 24	21
24 to but not including 27	24
27 to but not including 30	27
30 to but not including 35	30
35 to but not including 40	35
40 to but not including 45	40
45 to but not including 50	45
50 to but not including 60	50
60 to but not including 70	60
70 to but not including 80	70
80 to but not including 90	80
90 to but not including 105	90
105 to but not including 120	105
120 to but not including 135	120
135 to but not including 150	135
150 to but not including 180	150
180 to but not including 210	180
210 to but not including 240	210
240 to but not including 270	240
270 to but not including 300	270
300 to but not including 350	300
350 to but not including 400	350
400 to but not including 450	400
450 to but not including 500	450
500 to but not including 600	500

[A] The ticket number for thread having resultant yarn numbers of 600 tex and greater will be in steps of 100 for each 100 tex number increase in the resultant yarn number.

thread of interest has not been produced in at least 6 of the prior 12 months, collect at least 100 pairs of data consisting of a tex value and the corresponding production rate covering the period(s) during which the thread was being produced.

7.3 Calculate the weighted average of the linear density using Eq 1:

$$w = \Sigma tr/\Sigma r \quad (1)$$

where:

w = weighted average of linear density, tex,
t = single value of linear density, tex, and
r = production rate associated with a single linear density, kg/unit time (lb/unit time).

7.4 Use Table 1 to convert w to the thread ticket number.

8. Precision and Bias

8.1 The precision and bias of Practice D 3823 for testing resultant yarn number are as given in Test Method D 1907.

9. Keywords

9.1 sewing thread; ticket number; yarn number