

JIS

JAPANESE INDUSTRIAL STANDARD

Tex System to Designate Linear Density
of Fibres, Yarn Intermediates, Yarns
and other Textile Materials

JIS L 0101-1978
(Reaffirmed: 1983)

Translation without guarantee
In the event of any doubt arising, the original
standard in Japanese is to be evidence

Translated
by
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JAPANESE STANDARDS ASSOCIATION

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1. Scope

This Japanese Industrial Standard specifies the fineness or yarn number count according to the tex system of single fibres, yarns, ropes, cords, threads and their intermediates (slivers, rovings, tops, etc.).

Reference: Refer to ISO 2947 (Textiles, Integrated conversion table for replacing traditional yarn numbers by rounded values in the Tex System).

2. Base Unit

The base unit of tex system shall be tex.

The tex shall be expressed by number of grammes per 1 km.

3. Supplementary Units

The supplementary units of tex shall be millitex, decitex and kilotex.

Millitex is defined as 1/1000 of tex.

Decitex is defined as 1/10 of tex.

Kilotex is defined as 1000 texes.

4. Symbols

The symbols shall be in accordance with Table 1.

Table 1

Name of unit	Symbol	Size of unit
Tex	tex	g/km
Millitex	mtex	mg/km
Decitex	dtex	dg/km
Kilotex	ktex	kg/km

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5. Conversion

The conversion from other fineness or yarn number count to tex shall be in accordance with Attached Table.

6. Conversion Formula

The conversion formula from other fineness or yarn number count to tex shall be as shown in Table 2. However, for the tex, the rounded-off numerals shall be used.

Table 2

Yarn number count system	Mass of unit (g)	Length of unit (m)	Size of yarn number count unit	Conversion formula
Constant length system	Tex	1	1000	g/1 000 m
	Denir	1	9000	g/9 000 m
	Jute yarn number	1000	29029 (14400 yards)	1 000 g/29 029 m
Constant weight system	Metric count	1000	1000	1 000 m/1 000 g
	Cotton yarn number	453.59 (1 pound)	768.1 (840 yards)	768.1 m/453.59 g
	Flax yarn number	453.59 (1 pound)	274.34 (300 yards)	274.34 m/453.59 g

7. Marking Method

Marking of tex shall be expressed by attaching unit symbol after the numerical value.

Example: Single fibre 170 mtex
 Top and intermediates 20 ktex
 Roving 500 tex
 Single yarn 84 dtex

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Remark: Where the fineness or yarn number count other than tex is marked, the corresponding tex shall be marked in parentheses.

Example: In the case of cotton yarn	20 ^S (30 tex)
In the case of flax yarn	30 ^S (56 tex)
In the case of jute yarn	10 ^S (340 tex)
In the case of raw silk	21 ^d (2.3 tex)
In the case of wool yarn	60 (165 dtex)
In the case of filament yarn	120 ^d (135 dtex)

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Attached Table

Tex (tex)	Other fineness or yarn number count					Decitex (dtex)	Reference	
	Cotton yarn number	Metric count	Flax yarn number	Jute yarn number	Denir		Calculated value (dtex)	Deviation (%)
0.11					1	1.1	1.111	-1.0
0.12					1.1	1.2	1.222	-1.8
0.13					1.2	1.3	1.333	-2.5
0.145					1.3	1.45	1.444	+0.4
0.16					1.4	1.6	1.555	+2.8
0.17					1.5	1.7	1.666	+2.0
0.18					1.6	1.8	1.777	+1.2
0.19					1.7	1.9	1.888	+0.6
0.20					1.8	2.0	1.999	+0.1
0.22					2	2.2	2.222	-1.0
0.24					2.2	2.4	2.444	-1.8
0.28					2.5	2.8	2.777	+0.8
0.33					3	3.3	3.333	-1.0
0.40					3.5	4.0	3.888	+2.9
0.56					5	5.6	5.555	+0.8
0.66					6	6.6	6.666	-1.0
0.78					7	7.8	7.777	+0.3
0.90					8	9.0	8.888	+1.3
1					9	10	10.00	0.0
1.1					10	11	11.11	-1.0
1.2					11	12	12.22	-1.8
1.3					12	13	13.33	-2.5
1.6					14	16	15.56	+2.8
1.7					15	17	16.67	+2.0
2					18	20	20.00	0.0
2.2					20	22	22.22	-1.0
2.3					21	23	23.33	-1.4
2.6					23	26	25.56	+1.7
2.8					25	28	27.78	+0.8
3	200					30	29.53	+1.6
					27		30.00	0.0
3.1					28	31	31.11	-0.4
3.3	180					33	32.81	+0.6
					30		33.33	-1.0
3.5					32	35	35.56	-1.6
3.7	160					37	36.91	+0.2
4					35	40	38.89	+2.9
4.2	140					42	42.18	-0.4