
INTERNATIONAL STANDARD



1859

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Information processing – Unrecorded magnetic tapes for interchange instrumentation applications – General dimensional requirements

iTeh STANDARD PREVIEW
(standards.iteh.ai)

First edition – 1973-12-01

[ISO 1859:1973](#)

<https://standards.iteh.ai/catalog/standards/sist/18fbd421-1f06-43a3-b93f-a327ec05c21b/iso-1859-1973>

UDC 681.327.64

Ref. No. ISO 1859-1973 (E)

Descriptors : data processing, data storage devices, magnetic tapes, dimensions.

FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 97, *Computers and information processing*, has reviewed ISO Recommendation R 1859-1971 and found it technically suitable for transformation. International Standard ISO 1859 therefore replaces ISO Recommendation R 1859-1971, which was approved by the Member Bodies of the following countries :

Australia	Japan	Sweden
Belgium	New Zealand	Switzerland
Czechoslovakia	Portugal	Thailand
France	Romania	United Kingdom
Greece	South Africa, Rep. of	U.S.A.
Italy	Spain	U.S.S.R.

The Member Body of the following country expressed disapproval of the Recommendation on technical grounds :

Germany*

* Subsequently, this Member Body approved the Recommendation.

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1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the materials, the tape wind, and the dimensions of magnetic tape used in interchange instrumentation applications.

NOTE – Physical properties and test methods are specified in ISO 2690.

2 REFERENCES

ISO/R 1858, *General purpose hubs and reels, with 76 mm (3 in) centrehole, for magnetic tape used in interchange instrumentation applications.*

ISO/R 1860, *Precision reels for magnetic tape used in interchange instrumentation application.*

ISO 2690, *Unrecorded magnetic tapes for instrumentation applications – Physical properties and test methods.*

3 MATERIALS

The tape shall consist of a suitable, continuous and splice-free base material coated on one side with a durable, yet flexible layer of ferromagnetic material.

4 TAPE WIND

4.1 The tape shall be wound on hubs or reels complying with the specifications for precision reels or general purpose hubs and reels stated in ISO/R 1860 and ISO/R 1858.

NOTE – Smaller reels with 8 mm (5/16 in) centreholes are under consideration.

4.2 The tape shall be wound with the magnetic coated surface facing the hub of the reel.

5 DIMENSIONS

5.1 Standard widths

The standard widths shall be as listed in table 1.

5.2 Thickness

Maximum total thickness is controlled by standard reel dimensions, length and E value.

NOTE – The maximum total thickness of the base plus the coating shall not exceed 0,055 mm (0.002 2 in). The nominal base thickness is given in table 2.

5.3 Length

Tape shall be supplied in the minimum lengths given in table 2.

5.4 E value

The minimum E value shall be 2,5 mm (0.10 in). (The E value is the radial distance by which the reel flanges extend beyond the outermost layer of the tape.)

TABLE 1

Standard widths	
mm	in
6,25 ± 0,05	0.246 ± 0.002
12,70 ⁰ _{-0,10}	0.500 ⁰ _{-0.004}
*19,05 ⁰ _{-0,10}	*0.750 ⁰ _{-0.004}
25,40 ⁰ _{-0,10}	1.000 ⁰ _{-0.004}
50,80 ⁰ _{-0,10}	2.000 ⁰ _{-0.004}

* Although shown in this table, this dimension is not a preferred width.

TABLE 2

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Nominal base thickness		Coating thickness	Tape lengths by reel diameters														
			203 mm (8 in) reel			266 mm (10.5 in) reel			356 mm (14 in) reel			381 mm (15 in) reel			406 mm (16 in) reel		
			Nominal length*	Minimum true length		Nominal length*	Minimum true length		Nominal length*	Minimum true length		Nominal length*	Minimum true length		Nominal length*	Minimum true length	
mm	in	m	m	ft	m	m	ft	m	m	ft	m	m	ft	m	m	ft	
0,038	0,001 5	normal	365	366	1 200	760	762	2 500	1 520	1 524	5 000	—	—	—	—	—	—
0,025	0,001 0	normal	—	—	—	1 100	1 097	3 600	2 200	2 195	7 200	—	—	—	—	—	—
0,025	0,001 0	fine	—	—	—	1 400	1 402	4 600	2 800	2 804	9 200	3 300	3 292	10 800	3 800	3 780	12 400

* These nominal lengths are metric conversions, rounded for convenience of description, of original values in feet.

NOTE — Tape lengths for smaller reels with 8 mm (5/16 in) centreholes are under consideration.