INTERNATIONAL STANDARD

ISO 1141

Second edition
1990-11-01

Ropes — Polyester — Specification

Cordages — Polyester — Spécifications

Reference number
ISO 1141:1990(F)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 1141 was prepared by Technical Committee ISO/TC 38, *Textiles*.

This second edition cancels and replaces the first edition (ISO 1141:1975), of which it constitutes a technical revision.

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Ropes — Polyester — Specification

1 Scope

This International Standard specifies the main characteristics of 3-strand laid ropes and 8-strand plaited ropes made of polyester and gives rules for their designation.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 1968:1973, *Ropes and cordage — Vocabulary.*

ISO 2307:1990, *Ropes — Determination of certain physical and mechanical properties.*

ISO 9554:1990[1], *Fibre ropes — General specification.*

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 1968 apply.

4 Designation

A rope shall be designated by

— the word "rope";

— the reference number of this International Standard;

— the type of rope (type A or E);

— its reference number;

— its nature.

Example of designation:

A 3-strand polyester multifilament rope, reference number 30 (linear density 682 ktex), is designated as follows:

Rope, ISO 1141, type A, 30, polyester

5 Types

Polyester ropes are classified in two types:

Type A: 3-strand hawser-laid rope;

Type E: 8-strand plaited rope.

6 Characteristics

6.1 Main characteristics

The main characteristics shall be as given in table 1 and table 2 (see also ISO 9554, clause 7).

6.2 Other characteristics

Other characteristics, concerning construction, manufacture, lay, labelling, packaging, invoicing and delivery lengths, shall comply with ISO 9554.

1) To be published.

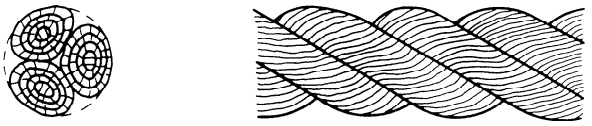

Figure 1 — Shape of a 3-strand hawser-laid rope (type A)

Table 1 — Main characteristics of 3-strand polyester ropes

Reference number[1]	Linear density[2) 3)] nominal ktex	tolerance	Minimum breaking force daN
4	11,8	± 10 %	290
6	27		554
8	48		1 000
10	76	± 8 %	1 560
12	110		2 230
14	148		3 120
16	195	± 5 %	3 980
18	245		4 980
20	303		6 230
22	367		7 470
24	437		8 960
26	512		10 500
28	594		12 000
30	682		13 400
32	778		15 400
36	982		19 000
40	1 215		23 500
44	1 468		27 900
48	1 750		32 900
52	2 050		38 400
56	2 380		43 900
60	2 730		48 900
64	3 110		56 800
72	3 930		70 700
80	4 850		86 700
88	5 870		104 000
96	6 990		123 000

1) The reference number corresponds to the approximate diameter in millimetres.

2) The linear density (in kilotex) corresponds to the net mass per metre (in grams per metre) or to the mass of rope (in kilograms) per thousand metres.

3) The linear density (net mass per metre) is measured under tensile loading for measurement "F_c" as given in ISO 2307.

Figure 2 — Shape of an 8-strand plaited rope (type E)

Table 2 — Main characteristics of 8-strand plaited polyester ropes

Reference number[1]	Linear density[2) 3)] nominal ktex	tolerance	Minimum breaking force daN
8	48	± 10 %	1 000
12	110	± 8 %	2 230
16	195	± 5 %	3 980
20	303		6 230
24	437		8 960
28	594		12 000
32	778		15 400
36	982		19 000
40	1 215		23 500
44	1 468		27 900
48	1 750		32 900
52	2 050		38 400
56	2 380		43 900
60	2 730		48 900
64	3 110		56 800
72	3 930		70 700
80	4 850		86 700
88	5 870		104 000
96	6 990		123 000
104	8 200		142 000
112	9 500		162 000
120	10 900		186 500
128	12 400		211 000
136	14 000		240 000
144	15 700		265 000
160	19 400		327 000

1) The reference number corresponds to the approximate diameter in millimetres.

2) The linear density (in kilotex) corresponds to the net mass per metre (in grams per metre) or to the mass of rope (in kilograms) per thousand metres.

3) The linear density (net mass per metre) is measured under tensile loading for measurement "F_c" as given in ISO 2307.

7 Marking

The identification of the material, quality and origin of a polyester rope conforming to this International Standard shall be marked using a yarn or tape yarn of an easily identifiable blue colour placed within the article (see 7.1 and 7.2), so as to remain recognizable despite soiling, soaking and discoloration during use.

7.1 Ropes of reference number <12

A blue yarn or tape yarn shall be incorporated into a strand.

7.2 Ropes of reference number $\geqslant 12$

A blue tape yarn at least 3 mm wide printed with the reference number of this International Standard and a reference identifying the manufacturer shall be incorporated into a strand.

The maximum distance between two consecutive markings shall be 1 m.