BRITISH STANDARD

BS EN ISO
1969:2004

Fibre ropes — Polyethylene — 3- and 4-strand ropes

The European Standard EN ISO 1969:2004 has the status of a British Standard

ICS 59.080.50

BSI
British Standards

National foreword

This British Standard is the official English language version of EN ISO 1969:2004. It is identical with ISO 1969:2004. It supersedes BS EN 700:1995 which is withdrawn.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 4, an inside back cover and a back cover.

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 1969

November 2004

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Supersedes EN 700:1995

English version

Fibre ropes - Polyethylene - 3- and 4-strand ropes (ISO 1969:2004)

Cordages en fibres - Polyéthylène - Cordages à 3 et 4 torons (ISO 1969:2004)

Faserseile - Polyethylen - 3- und 4-litzige Seile (ISO 1969:2004)

This European Standard was approved by CEN on 4 October 2004.

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Ref. No. EN ISO 1969:2004: E

Foreword

This document (EN ISO 1969:2004) has been prepared by Technical Committee CEN/TC 248 "Textiles and textile products", the secretariat of which is held by BSI, in collaboration with Technical Committee ISO/TC 38 "Textiles".

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

This document supersedes EN 700:1995.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

INTERNATIONAL STANDARD

ISO 1969

Third edition
2004-11-01

Fibre ropes — Polyethylene — 3- and 4-strand ropes

Cordages en fibres — Polyéthylène — Cordages à 3 et 4 torons

Reference number
ISO 1969:2004(E)

Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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ISO 1969 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 248, *Textiles and textile products*, in collaboration with Technical Committee ISO/TC 38, *Textiles*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 1969:1990), which has been technically revised.

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Fibre ropes — Polyethylene — 3- and 4-strand ropes

1 Scope

This International Standard specifies requirements for 3-strand hawser-laid and 4-strand shroud-laid ropes for general service (excluding fittings) made of polyethylene and gives rules for their designation.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1968, *Fibre ropes and cordage — Terms and definitions*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1968 apply.

4 Designation

Fibre ropes shall be designated by:

— the words “fibre rope”;

— the number of this International Standard;

— the construction type of rope (see Clause 5);

— the reference number of the rope;

— the material from which the rope is made.

EXAMPLE Designation of a 4-strand shroud-laid rope (type B) with a linear mass of 802 ktex corresponding to the reference number 40 made of polyethylene (PE):

Fibre rope ISO 1969 - B - 40 – PE.

1) To be published. (Revision of ISO 9554:1991)

5 General requirements

5.1 Polyethylene ropes shall be made in one of the following constructions:

— type A: 3-strand hawser-laid rope (see Figure 1);

— type B: 4-strand shroud-laid rope (see Figure 2).

5.2 Construction, manufacture, lay, labelling, packaging, invoicing and delivery lengths shall conform to ISO 9554.

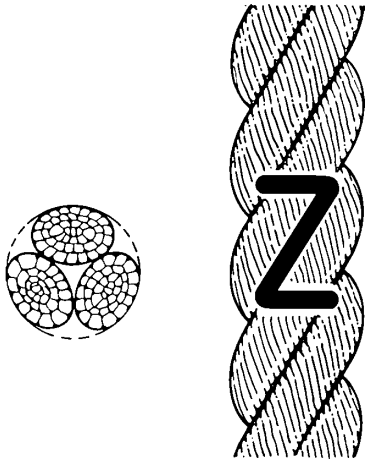

Figure 1 — Shape of a 3-strand hawser-laid rope (type A)

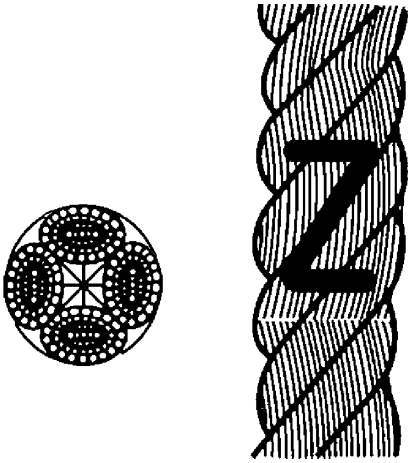

Figure 2 — Shape of a 4-strand shroud-laid rope (type B)

6 Physical properties

Linear density and minimum breaking force shall conform to Tables 1 and 2.

Table 1 — Linear density and minimum breaking force of 3-strand hawser-laid polyethylene ropes (type A)

Reference number [a]	Linear density [b, c]		Minimum breaking force [d, e, f,]
	Nominal	Tolerance	
	ktex	%	kN
4	8,02	± 10	1,88
4,5	10,1		2,36
5	12,5		2,89
6	18,0		4,10
8	32,1		7,11
9	40,6		8,91
10	50,1	± 8	10,9
12	72,1		15,5
14	98,2		20,9
16	128	± 5	27,0
18	162		33,8
20	200		41,3
22	242		49,8
24	289		58,8
26	339		68,4
28	393		79,2
30	451		90,3
32	513		102
36	649		128
40	802		157
44	970		188
48	1 150		222
52	1 350		259
56	1 570		299
60	1 800		341
64	2 050		386
72	2 600		484
80	3 210		592
88	3 880		711
96	4 620		839

[a] The reference number corresponds to the approximate diameter in millimetres.

[b] The linear density (in kilotex) corresponds to the net mass per length of the rope, expressed in grams per metre or in kilograms per thousand metres.

[c] The linear density is under reference tension and is measured as specified in ISO 2307.

[d] The breaking forces quoted above relate to new dry and wet ropes.

[d] Minimum values stated in individual standards shall be reduced by 10 % in the case of a rope with eye-spliced terminations.

[f] A force determined by the test methods as specified in ISO 2307 is not necessarily an accurate indication of the force at which that rope might break in other circumstances and situations. Type and quality of termination rate of force application, prior conditioning and previous force applications to the rope can significantly influence the breaking force. A rope bent around a post, capstan, pulley or sheave might break at a significantly lower force. A knot or other distortion in a rope might significantly reduce the breaking force.

Table 2 — Linear density and minimum breaking force of 4-strand shroud-laid polyethylene ropes (type B)

Reference number [a]	Linear density [b, c]		Minimum breaking force [d, e, f]
	Nominal	Tolerance	
	ktex	%	kN
10	50,1		9,81
12	72,1	± 8	14,0
14	98,2		18,8
16	128		24,3
18	162		30,4
20	200		37,2
22	242		44,8
24	289		52,9
26	339		61,6
28	393		71,3
30	451		81,3
32	513		91,8
36	649		115
40	802	± 5	141
44	970		169
48	1 150		200
52	1 360		233
56	1 570		269
60	1 800		307
64	2 050		347
72	2 600		436
80	3 210		533
88	3 880		640
96	4 620		755

[a] The reference number corresponds to the approximate diameter in millimetres.

[b] The linear density (in kilotex) corresponds to the net mass per length of the rope, expressed in grams per metre or in kilograms per thousand metres.

[c] The linear density is under reference tension and is measured as specified in ISO 2307.

[d] The breaking forces quoted above relate to new dry and wet ropes.

[e] Minimum values stated in individual standards shall be reduced by 10 % in the case of a rope with eye-spliced terminations.

[f] A force determined by the test methods as specified in ISO 2307 is not necessarily an accurate indication of the force at which that rope might break in other circumstances and situations. Type and quality of termination rate of force application, prior conditioning and previous force applications to the rope can significantly influence the breaking force. A rope bent around a post, capstan, pulley or sheave might break at a significantly lower force. A knot or other distortion in a rope may significantly reduce the breaking force.

7 Marking

The marking shall be carried out in accordance with ISO 9554:—[2)], Clause 6.

2) To be published. (Revision of ISO 9554:1991)

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