

Specification for

Double braided ropes made from man-made fibre

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Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Textiles and Clothing Standards Policy Committee (TCM/-) to Technical Committee TCM/45, upon which the following bodies were represented:

- Associated Offices Technical Committee
- Association of Metropolitan Authorities
- British Tugowners' Association
- Chief and Assistant Chief Fire Officers' Association
- Cordage Manufacturers' Institute
- Department of Trade and Industry (National Engineering Laboratory)
- Federation of Wire Rope Manufacturers of Great Britain
- GMC County Fire Service
- Health and Safety Executive
- Institution of Fire Engineers
- Made-up Textiles Association
- Ministry of Defence
- National Caving Association
- National Federation of Master Steeplejacks and Lightning Conductor Engineers
- Scottish Office (Agriculture and Fisheries Department)
- Textile Institute

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- British Railways Board
- Department of Transport (Marine Directorate)
- Lloyds' Register of Shipping

This British Standard, having been prepared under the direction of the Textiles and Clothing Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 June 1993

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The following BSI references relate to the work on this standard:
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Foreword

This British Standard has been prepared by the Cordage Manufacturers' Institute under the direction of the Textiles and Clothing Standards Policy Committee and includes a revision of those parts of BS 4928:1985 not to be included in a European Standard specification for man-made ropes.

BS 4928 will be withdrawn upon publication of the equivalent European standards: EN 701¹⁾ *Ropes — General specification*; EN 696¹⁾ *Ropes — Polyamide — Specification*; EN 697¹⁾ *Ropes — Polyester — Specification* and EN 699¹⁾ *Ropes — Polypropylene — Specification* (which will be published in the UK as BS EN 701, BS EN 696, BS EN 697 and BS EN 699 respectively).

Assessed capability. Users of this British Standard are advised to consider the desirability of quality system assessment and registration against the appropriate Part of BS 5750 by a third party certification body.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

¹⁾ In preparation.

1 Scope

This British Standard specifies requirements for the manufacture and construction of double braided ropes made from polyamide or polyester continuous filaments.

Methods of testing ropes for the specified properties are given in Annex A and Annex B. These include methods for calculation of the breaking strength from measurements on the individual rope yarns.

NOTE 1 In the UK and many other countries, polyamide filament is commonly known as nylon filament.

NOTE 2 Supplementary information on care and use of double braided ropes made from man-made fibre is given in Annex C.

2 References

2.1 Normative references

This British Standard incorporates, by reference, provisions from specific editions of other publications. These normative references are cited at the appropriate points in the text and the publications are listed on the inside back cover. Subsequent amendments to, or revisions of, any of these publications apply to this British Standard only when incorporated in it by updating or revision.

2.2 Informative references

This British Standard refers to other publications that provide information or guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

3 Definitions

For the purposes of this British Standard, the definitions given in BS 3724:1991 apply.

4 Materials

Only virgin polymeric material shall be used.

The material used in manufacturing the ropes shall be one of the following:

- high tenacity continuous multifilament bright polyamide yarn to produce ropes having the characteristics specified in Table 1;
- high tenacity continuous multifilament bright polyester yarn to produce ropes having the characteristics specified in Table 2.

Table 1 — Requirements for polyamide double braided ropes

Nominal diameter mm	Size no.	Mass ($\pm 5\%$) kg/m	Minimum breaking load t	Minimum breaking strength kN
6	0.75	0.024	0.96	9
8	1	0.040	1.45	14
10	1.25	0.071	2.72	27
12	1.5	0.095	3.18	31
14	1.75	0.119	4.32	42
16	2	0.159	5.50	54
18	2.25	0.214	7.00	69
21	2.625	0.285	9.50	93
24	3	0.357	12.7	124
28	3.5	0.486	18.0	176
32	4	0.635	22.0	216
36	4.5	0.804	27.0	265
40	5	0.988	36.0	353
44	5.5	1.20	42.0	412
48	6	1.43	50.0	490
52	6.5	1.68	60.0	588
56	7	1.95	69.0	677
60	7.5	2.23	78.0	765
64	8	2.54	90.0	882
72	9	3.21	109.0	1 070
80	10	3.97	138	1 350
88	11	4.81	167	1 640
96	12	5.72	195	1 910
104	13	6.71	232	2 280
112	14	7.79	267	2 620
120	15	8.93	305	2 990
128	16	10.2	340	3 330
144	18	12.8	420	4 120
168	21	17.4	570	5 590
192	24	22.8	760	7 450
216	27	28.8	980	9 410
240	30	35.6	1 299	12 740

NOTE The tensile properties of ropes may be expressed either as breaking load (in tonnes) or, preferably, as breaking strength (in kilonewtons).