



SLOVENSKI STANDARD
SIST EN 14684:2005

01-marec-2005

Poliestrške vlaknene vrvi - Dvopramenska pletena struktura

Polyester fibre ropes - Double braid construction

Polyester-Faserseile - Doppelgeflechtausführung

Cordages en fibres de polyester - Cordages coaxiaux

Ta slovenski standard je istoveten z: EN 14684:2004

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ICS:

59.080.50 Vrvi Ropes

SIST EN 14684:2005 **en**

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EUROPEAN STANDARD

EN 14684

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English version

Polyester fibre ropes - Double braid construction

Cordages en fibres de polyester - Cordages coaxiaux

Polyester-Faserseile - Doppelgeflechtausführung

This European Standard was approved by CEN on 23 September 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of 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.

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Foreword

This document (EN 14684:2004) has been prepared by Technical Committee CEN/TC 248 “Textiles and textiles products”, the secretariat of which is held by BSI.

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of an identical text or by endorsement, at the latest by May 2005, and conflicting national standards shall be withdrawn at the latest by May 2005.

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.

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EN 14684:2004 (E)**1 Scope**

This document specifies requirements for double braided ropes and for higher strength double braided ropes made of polyester 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.

EN ISO 1968:2004, *Fibre ropes and cordage — Vocabulary (ISO 1968:2004)*.

prEN ISO 2307, *Fibre ropes — Determination of certain physical and mechanical properties (ISO/DIS 2307:2003)*.

prEN ISO 9554:2003, *Fibre ropes — General specifications (ISO/DIS 9554:2003)*.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 1968:2004 apply.

4 Designation

Fibre ropes shall be designated by [SIST EN 14684:2005
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- the words "fibre rope";
- number of this document;
- reference number of the rope;
- material from which the rope is made;
- level of strength of rope: double braided rope or high strength (*hs*) double braided rope.

EXAMPLE 1 Designation of a double braided rope, reference number 20, corresponding to a linear density of 319 ktex made of polyester:

Fibre rope EN 14684 - 20 - PES

EXAMPLE 2 Designation of a higher strength double braided rope, reference number 20, corresponding to a linear density of 319 ktex made of polyester:

Fibre rope EN 14684 - 20 - PES (*hs*)

5 General requirements

5.1 Construction

Ropes produced according to this document shall be made in the following construction.

The rope (see Figure 1) shall be a double braided construction wherein an inner braid of hollow structure manufactured in a separate operation shall serve as the core, while a cover (outer braid) is braided over it in a second operation. The weight of either the inner braid or the outer braid shall not exceed 55 % of the total weight of the rope. It shall also conform to prEN ISO 9554.

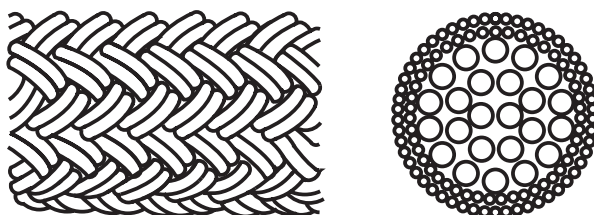


Figure 1 — Shape of a polyester double braided rope and of a polyester higher strength double braided rope

5.2 Number of strands standards.iteh.ai

For ropes of reference number from 6 to 16, the minimum number of strands of outer braid shall be 16.

For ropes of reference number greater than 16, the minimum number of strands of outer braid shall be 24.

5.3 Manufacture and labelling

Manufacture, labelling, packaging, invoicing and delivery lengths shall conform to prEN ISO 9554.

5.4 Strand interchange

5.4.1 Strand interchange shall be the overlapping continuation of a single interrupted strand (or multiple strand) with another identical strand which follows the identical path in the braid. Although it is desirable that no strand interchange be present in the core or the cover of any size and length of rope, some methods of manufacture impose limitations. To compensate for these limitations, strand interchange shall be in accordance with 5.4.2 to 5.4.5.

5.4.2 To allow for a braider malfunction, one strand interchange shall be permitted in the core and one in the cover for standard length of 200 m or less.

5.4.3 For lengths greater than 200 m, additional strand interchanges shall be permitted if deemed necessary by the manufacturer.

5.4.4 In producing the strand interchanges, the distance of the overlapping shall be equivalent to 8 times the rope size number but not less than 600 mm for ropes whose reference numbers are 72 and less. Strand interchanges shall be at least 12 m apart measured from interchange centre to interchange centre.

5.4.5 Because strand interchanges within the core are difficult to detect after application of the cover, a record of verifiable information attesting to the number of strand interchanges shall be available to an inspector.

6 Physical properties

Linear density and minimum breaking force shall conform to Table 1.

Table 1 — Linear density and minimum breaking force of polyester double braided rope and polyester higher strength double braided rope

Reference number ^{a)}	Linear density ^{b) c)}		Minimum breaking force kN ^{d) e) f)}	
	Nominal ktex	Tolerance	Double braided rope	Higher strength double braided rope
6	28,7	± 10 %	6,67	8,34
8	51,0		11,6	14,5
10	79,7	± 8 %	17,8	22,3
12	115		25,4	31,7
14	156		34,2	42,7
16	204		44,2	55,3
18	258	± 5 %	55,5	69,4
20	319		68,0	85,0
22	386		81,6	102
24	459		96,8	121
26	539		113	141
28	625		130	163
30	717		149	186
32	816		168	210
36	1 030		211	264
40	1 280		259	324
44	1 540		311	389
48	1 840		368	460
52	2 160		430	537
56	2 500		494	618
60	2 870		566	707
64	3 260		640	800
72	4 130	800	1 000	
80	5 100	984	1 230	
88	6 170	1 180	1 480	
96	7 350	1 400	1 750	
104	8 620	1 630	2 040	
112	10 000	1 880	2 350	
120	11 500	2 150	2 690	
128	13 100	2 430	3 040	
144	16 500	3 050	3 810	
168	22 500	4 100	5 130	
192	29 400	5 340	6 680	
216	37 300	6 700	8 380	
240	46 000	8 200	10 300	

^{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 prEN ISO 2307.

^{d)} The breaking forces quoted above relate to new dry and wet ropes.

^{e)} Minimum values 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 prEN 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 may break at a significantly lower force. A knot or other distortion in a rope may significantly reduce the breaking force.