SLOVENSKI STANDARD
SIST EN 1261:1999

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Vlaknene vrvi za vsakovrstno uporabo - Konoplja

Fibre ropes for general service - Hemp

Faserseile für allgemeine Verwendung - Hanf

Cordages en fibres pour usages divers - Chanvre

Ta slovenski standard je istoveten z: **EN 1261:1995**

ICS:

59.080.50 Vrvi Ropes

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Descriptors: textiles, cordages, hemp, strands, characteristics, dimensions, linear density, breaking load, designation, marking, labelling

English version

Fibre ropes for general service - Hemp

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Contents

Foreword

This European Standard has been prepared by the Technical Committee CEN/TC 248 "Textiles and textile products", of which the secretariat 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of an identical text or by endorsement, at the latest by February 1996, and conflicting national standards shall be withdrawn at the latest by February 1996.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies requirements for 3-, 4- and 9-strand laid ropes and plaited ropes made of hemp for general purposes.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 701: 1995	Fibre ropes for general service – General specification
EN 919	Fibre ropes for general service – Determination of certain physical and mechanical properties
ISO 1968	Ropes and cordage – Vocabulary

3 Definitions

For the purposes of this standard, the definitions of ISO 1968 and the following definitions apply:

3.1 Plaited rope: Plait made of plaited sections with or without core.

3.2 Plait: Rope plaited in one direction (spiral plait) or in the opposite direction (cross plait).

3.3 Plaited section: Element at the circumference of plaited ropes consisting of yarns or strands.

3.4 Number of plaited sections: Number of plaited sections at the circumference of plaited ropes.

3.5 Core: Bundle of rope yarns in the middle of the rope.

3.6 Preserving agent: Substance to improve the resistance of the cordage to rotting.

4 Construction

Hemp ropes produced in accordance with this European Standard shall be constructed in compliance with one of the following types (see also figures 1 and 2):

- type A: 3-strand hawser-laid rope;
- type B: 4-strand shroud-laid rope (for ropes with a nominal diameter ≥ 16 mm with core);
- type C: 9-strand cable-laid rope;
- type E: round-plaited fibre rope; with core for ropes with a number of plaited sections T ≥ 10.

5 Structure and properties

5.1 Rope geometry, dimensions and load factors

Hemp ropes shall conform to the values given in tables 1 to 5 of this standard and and the values given in EN 701.

5.2 Manufacture

5.2.1 General

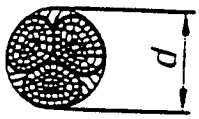
The manufacture of ropes conforming to this standard shall be carried out in the natural state of the yarns, strands and cores.

Other requirements concerning structure and manufacture shall be in accordance with EN 701.

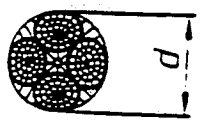
NOTE: Strands may be polished (smoothed) to improve the characteristics of the rope.

5.2.2 Spiral ropes

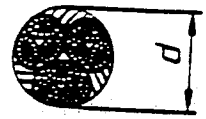
type A
hawser-laid
3-strand



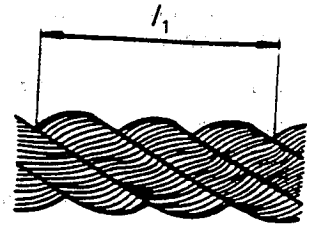
type B
shroud-laid
4-strand



type C
cable-laid
(9-strand)
3 layers of strands



lay l_1, type A
in accordance with
table 4



NOTE: A core is necessary for ropes with $d \geq 16$ mm for type B.

Figure 1: Examples of laid ropes (types A,B,C)

Table 1: Dimensions and minimum breaking force of rope types A, B and C

Nominal rope diameter d [2] mm			Linear density under tensile loading [1] nominal value ktex [3]			Minimum breaking force daN		
type			type			type		
A	B	C	A and B	C	tolerance on A,B,C	A	B	C
4 6	–		12 27			130 285	–	
8			47		±10%	500	450	
10 12 14			74 111 141			780 1165 1485	700 1080 1375	
16 18 20			185 230 285	–		960 2420 3000	1825 2250 2780	–
22 24 26			345 410 485			3600 4270 4950	3240 3980 4600	
28			560			5820	5410	
30 32			640 735	610 700		6680 7620	6180 7090	3840 4390
36 40 44			930 1150 1380	880 1090 1310	± 5%	9200 10700 12700	8560 9980 11800	5300 6180 7330
48 52 56			1660 1920 2240	1560 1820 2120		15200 17800 20500	14100 16700 19100	8740 10200 11800
60 64 72			2520 2920 3690	2390 2770 3500		22600 26000 32400	21000 24200 30100	12700 14900 18600
80 88 96			4570 5500 6550	4340 5220 6220		39700 47100 54800	36900 43700 51000	22800 27000 31500

[1] For tensile loading see EN 919.

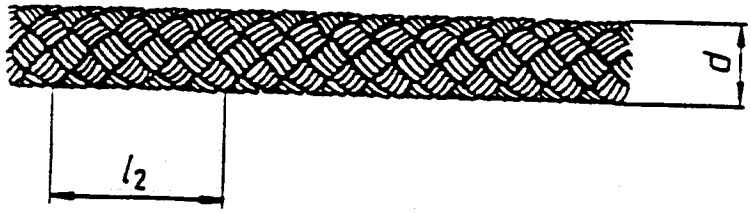
[2] The nominal rope diameter is the reference number of the rope. Measurement of rope diameter shall be according to EN 919.

[3] The linear density (in kilotex) refers to the net mass (in grams per metre) or the mass of the fibre ropes (in kilograms per kilometre)

5.2.3 Round-plaited fibre ropes (type E)

type E

round-plaited fibre



Length of pitch l_2 in accordance with table 4

Figure 2: Round-plaited fibre rope (type E)

Table 2: Dimensions and minimum breaking force of rope type E

Nominal rope diameter d [2] mm	Linear density under tensile loading [1] ktex [3]	tolerance	Minimum breaking force daN
3	4,8	± 10%	41
4	8,3		75
6	18,2		165
8	32		305
10	49		445
12	70		640
14	95		860
16	115	± 5%	1100
18	145		1400

[1] For tensile loading see EN 919.

[2] The nominal rope diameter is the reference number of the rope. Measurement of rope diameter shall be in accordance with to EN 919.

[3] The linear density (in kilotex) refers to the net mass (in grams per metre) or the mass of the fibre ropes (in kilograms per kilometre)

Table 3: Plait pitch and rope cores

Number of plait pitch T											
6	8	10	12	16	18	20	24	32	36	40	48
without core	with core (not for ropes with a nominal diameter of 3 mm)										

5.3 Mode of delivery

Packing, length of delivery, labelling and invoicing shall be in accordance with EN 701 and ropes shall be designed and marked in accordance with clauses 8 and 9.

Preserving agents, if used, shall be indicated on the package.

6 Materials

Long fibre yarns used for hemp cordage shall exclusively consist of new hemp (Cannabis sativa L) with an approximate density of 1,35 kg/dm³.

When processing the fibres to produce rope yarns the admixture of other natural fibres may be present.

Table 4: Rope geometry

	Type A 3-strand	Type B 4-strand with core 1)	Type C 3 layers of strands (9 strands)	Type E round-plaited fibre with core
Type of lay	Hawser-laid	Shroud-laid	Cable-laid	Round-plaited
Rope twist	Z	Z	S	–
Rope lay	l_1 max. 3,5 d; up to d = 96 mm			–
Plait pitch	–			l_2 max. 3,7 d; $d \geq 4$ mm
Rope yarn	Fibre in accordance with clause 6, rope twist in accordance with 4.2 of EN 701: 1995			
Rope strand	Each strand shall consist of the same number of yarns			
Rope core	–	Either as a strand or a laid or round-plaited fibre rope of appropriate diameter	–	Bundle of yarns twisted or plaited into a strand. The mass percentage of the core is not specified.
1) A core shall be for type B ropes for $d \geq 16$ mm				

7 Testing

Sampling and testing of hemp fibre ropes shall be in accordance with EN 919.

8 Designation

The designation of a rope in accordance with this standard shall be given in the following form: