SLOVENSKI STANDARD
oSIST prEN 10264-2:2017

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Jeklena žica in žični izdelki - Jeklena žica za vrvi - 2. del: Hladno vlečena nelegirana jeklena žica za vrvi za splošno uporabo

Steel wire and wire products - Steel wire for ropes - Part 2: Cold drawn non alloy steel wire for ropes for general applications

Stahldraht und Drahterzeugnisse - Stahldraht für Seile - Teil 2: Kaltgezogener Draht aus unlegiertem Stahl für Seile für allgemeine Verwendungszwecke

Fils et produits tréfilés en acier - Fils pour câbles - Partie 2 : Fils écrouis à froid par tréfilage en acier non allié pour câbles d'usages courants

Ta slovenski standard je istoveten z: **prEN 10264-2**

ICS:

77.140.45	Nelegirana jekla	Non-alloyed steels
77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 77.140.65

Will supersede EN 10264-2:2012

English Version

Steel wire and wire products - Steel wire for ropes - Part 2: Cold drawn non alloy steel wire for ropes for general applications

Fils et produits tréfilés en acier - Fils pour câbles - Partie 2 : Fils écrouis à froid par tréfilage en acier non allié pour câbles d'usages courants

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This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ECISS/TC 106.

If this draft becomes a European Standard, 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword

This document (prEN 10264-2:2017) has been prepared by Technical Committee ECISS/TC 106 “Wire rod and wires”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 10264-2:2012.

EN 10264, *Steel wire and wire products - Steel wire for ropes* is made up of the following parts:

— *Part 1: General requirements*

— *Part 2: Cold drawn non alloy steel wire for ropes for general applications*

— *Part 3: Round and shaped non alloyed steel wire for high duty applications*

— *Part 4: Stainless steel wire*

This European Standard has been technically revised to incorporate the following changes:

a) additional standards have been referenced for manufacturing the drawn wires (see Clause 4);

b) the purity of the zinc coating of the drawn wire has been specified according to the relevant EN 1179 (see Clause 4);

c) other tensile strength grades than those given in Table 1 have been allowed, subject to an agreement between supplier and user at the time of order (see 5.1);

d) other wires than those given in Table 1 have been allowed, subject to an agreement between the customer and the supplier at the time of order (see 5.2);

e) new values have been given in Table 2 "Requirements for mechanical characteristics of wire".

1 Scope

This part of EN 10264 defines cold drawn non alloy steel wire used for the manufacture of:

— ropes for general applications and lifts;

— ropes for applications for which there is no specific European Standard.

This part of EN 10264 does not apply to steel wire taken from manufactured ropes.

This part of EN 10264 specifies the following for cold drawn non alloy steel wire for ropes for general applications:

— dimensional tolerances;

— mechanical characteristics;

— requirements relating to the chemical composition of the steel wire;

— conditions to be satisfied by any coating.

In addition to the requirements of this part of EN 10264, the requirements of EN 10264-1 also apply.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1179, *Zinc and zinc alloys - Primary zinc*

EN 10218-1, *Steel wire and wire products - General - Part 1: Test methods*

EN 10244-2, *Steel wire and wire products - Non-ferrous metallic coatings on steel wire - Part 2: Zinc or zinc alloy coatings*

EN 10264-1, *Steel wire and wire products - Steel wire for ropes - Part 1: General requirements*

EN ISO 16120-1, *Non-alloy steel wire rod for conversion to wire - Part 1: General requirements (ISO 16120-1)*

EN ISO 16120-2, *Non-alloy steel wire rod for conversion to wire - Part 2: Specific requirements for general purpose wire rod (ISO 16120-2)*

EN ISO 16120-4, *Non-alloy steel wire rod for conversion to wire - Part 4: Specific requirements for wire rod for special applications (ISO 16120-4)*

3 Product designation

The designation of round wire for ropes, covered by this part of EN 10264, shall be based on the nominal diameter (*d*), surface appearance and tensile strength classification. The abbreviation for the surface finish condition is:

— U (uncoated) for bright wire;

— A or B for zinc or zinc alloy coating depending on coating class.

A distinction is made between a zinc and a zinc alloy coating by the addition in brackets of "Zn/Al" for the zinc alloy.

EXAMPLE 1 Wire for rope for general applications with nominal diameter d = 1,5 mm, surface appearance bright (U), tensile strength grade 1 770 MPa.

Designation rope wire EN 10264-2 — 1,5 — U — 1 770

EXAMPLE 2 Wire for rope for general applications with a nominal diameter d = 2,5 mm, zinc coated class A, tensile strength grade 1 370 MPa.

Designation rope wire EN 10264-2 — 2,5 — A — 1 370

EXAMPLE 3 Wire for rope for general applications with a nominal diameter d = 1,8 mm, coated with zinc alloy, class B, tensile strength grade 1 770 MPa.

Designation rope wire EN 10264-2 — 1,8 — B(Zn/Al) — 1 770

4 General conditions of manufacture

The drawn wire shall be manufactured using wire rod in accordance with either EN ISO 16120-1 and EN ISO 16120-2 or EN ISO 16120-1 and EN ISO 16120-4.

The finished wire shall show no surface defects or internal defects prejudicial to its use.

When specified, drawn wire shall be supplied with zinc coating or Zn95/Al5 coating. Unless otherwise specified, the zinc used for the zinc coating shall have a purity of 99,95 % according to EN 1179, Z3, other zinc alloys are subject to agreement.

NOTE If required by the purchaser, the quality of the zinc or zinc alloy used for the coating material should be certified by the manufacturer. Because of the reaction between the base material and coating material, which is inherent to the process, the composition of the coating on the wire is different to that of the coating bath.

5 Characteristics of wire

5.1 Tensile strength grades

The values for tensile strength grades shall be as specified in Table 1.

Additional grades are possible by agreement between supplier and user at the time of order. Corresponding properties will be agreed between the parties.

Table 1 — Tensile strength grades and ranges of nominal diameters

Tensile strength grade MPa [a]	Range of nominal diameters mm	
	Bright and coated [b] – Class B	Coated [b] – Class A
	Class B	Zinc or Zn95/Al5 Class A
1 180	0,20 to 1,80	—
1 370	0,20 to 7,00	0,70 to 7,00
1 570	0,20 to 7,00	0,70 to 7,00
1 770	0,20 to 6,00	0,70 to 6,20
1 960	0,20 to 5,00	0,70 to 4,20
2 160	0,20 to 4,00	—
2 260	0,20 to 3,40	—
2 360	0,20 to 2,70	—

[a] 1 MPa = 1 N/mm².

[b] Coated means zinc or Zn95/Al5 alloy.

5.2 Requirements for wire characteristics

The requirements for wire are specified in Table 2.

If required and agreed at the time of order between the customer and the supplier, wires not mentioned in the Table 1 can be introduced. Corresponding characteristics will be agreed upon by the customer and the supplier.

Table 2 — Requirements for mechanical characteristics of wire[c]

Nominal diameter d of wire	Diameter tolerances		R	Minimum number of reverse bends											Minimum number of torsions										Minimum mass of coating	
	Bright and coated [a] – Class B	Coated [a] – Class A		Bright and coated [a] – Class B							Coated [a] – Class A				Bright and coated [a] – Class B							Coated [a] – Class A					
				Tensile strength grade – MPa [b]											Tensile strength grade – MPa [b]										g/m²	
mm	mm		mm	1 180 & 1 370	1 570	1 770	1 960	2 160	2260	2360	1 370	1 570	1 770	1 960	1 180 & 1 370	1 570	1 770	1 960	2 160	2260	2360	1 370	1 570	1 770	1 960	Class B	Class A
0,20 ≤ d < 0,25	± 0,008	—																							20	
0,25 ≤ d < 0,30	± 0,008	—																							30	
0,30 ≤ d < 0,40	± 0,01	± 0,025																							30	
0,40 ≤ d < 0,50	± 0,01	± 0,025																							40	85
0,50 ≤ d < 0,55	± 0,015	± 0,03	1,75	16	15	14	13	12	11	10					34	30	28	25	23	21	19					50	100
0,55 ≤ d < 0,60	± 0,015	± 0,03	1,75	14	14	13	12	11	10	9					34	30	28	25	23	21	19					50	100
0,60 ≤ d < 0,65	± 0,015	± 0,03	1,75	13	12	11	10	9	8	7					34	30	28	25	23	21	19					60	115
0,65 ≤ d < 0,70	± 0,015	± 0,03	1,75	12	11	10	9	8	7	6					34	30	28	25	23	21	19					60	115
0,70 ≤ d < 0,75	± 0,015	± 0,03	2,5	19	17	16	15	14	13	12		13	12	11	34	30	28	25	23	21	19		21	19	17	60	130
0,75 ≤ d < 0,80	± 0,015	± 0,03	2,5	18	16	15	14	13	12	11		12	11	10	34	30	28	25	22	21	19		21	19	17	60	130
0,80 ≤ d < 0,85	± 0,015	± 0,03	2,5	16	14	13	12	11	10	9		11	10	9	34	30	28	25	22	21	19		21	19	17	70	145
0,85 ≤ d < 0,90	± 0,015	± 0,03	2,5	15	13	12	11	10	9	8		10	9	8	34	30	28	25	22	21	19		21	19	17	70	145
0,90 ≤ d < 0,95	± 0,015	± 0,03	2,5	14	12	11	10	9	8	7		9	8	7	34	30	28	25	22	21	19		21	19	17	70	155
0,95 ≤ d < 1,00	± 0,015	± 0,03	2,5	13	11	10	9	8	7	6		8	7	6	34	30	28	25	22	21	19		21	19	17	70	155
1,00 ≤ d < 1,10	± 0,02	± 0,04	3,75	20	18	17	16	14	13	12		15	14	12	33	29	26	23	21	19	17		20	18	13	80	165
1,10 ≤ d < 1,20	± 0,02	± 0,04	3,75	19	17	16	15	13	12	11		14	13	11	33	29	26	23	21	19	17		20	18	13	80	165
1,20 ≤ d < 1,30	± 0,02	± 0,04	3,75	18	16	15	14	12	11	10		12	11	9	33	28	25	22	20	18	16		18	15	10	90	180
1,30 ≤ d < 1,40	± 0,02	± 0,04	3,75	16	14	13	12	10	9	8		10	8	7	33	28	25	22	19	16	14		18	15	10	90	180
1,40 ≤ d < 1,50	± 0,02	± 0,04	3,75	14	12	11	10	9	8	7		8	7	6	33	28	25	22	19	16	14		18	15	10	100	195
1,50 ≤ d < 1,60	± 0,02	± 0,04	5	16	15	14	13	12	11	10		11	10	9	33	28	25	22	19	16	14		18	15	10	100	195

Nominal diameter d of wire	Diameter tolerances		R	Minimum number of reverse bends											Minimum number of torsions										Minimum mass of coating	
	Bright and coated [a] – Class B	Coated [a] – Class A		Bright and coated [a] – Class B							Coated [a] – Class A				Bright and coated [a] – Class B							Coated [a] – Class A					
				Tensile strength grade – MPa [b]											Tensile strength grade – MPa [b]										g/m²	
mm	mm		mm	1 180 & 1 370	1 570	1 770	1 960	2 160	2260	2360	1 370	1 570	1 770	1 960	1 180 & 1 370	1 570	1 770	1 960	2 160	2260	2360	1 370	1 570	1 770	1 960	Class B	Class A
1,60 ≤ d < 1,65	± 0,02	± 0,04	5	15	14	13	12	11	10	9		10	9	8	33	28	25	22	19	16	14		18	15	10	100	195
1,65 ≤ d < 1,70	± 0,02	± 0,04	5	15	14	13	12	11	10	9		10	9	8	33	28	25	22	19	16	14		18	15	10	100	205
1,70 ≤ d < 1,80	± 0,02	± 0,05	5	14	12	11	11	10	9	8		9	8	7	33	28	25	22	19	16	14		18	15	10	100	205
1,80 ≤ d < 1,85	± 0,025	± 0,05	5	13	11	10	10	8	7	6		8	7	6	32	27	24	21	18	16	14		17	14	9	100	205
1,85 ≤ d < 1,90	± 0,025	± 0,05	5	13	11	10	10	8	7	6		8	7	6	32	27	24	21	18	16	14		17	14	9	115	215
1,90 ≤ d < 2,00	± 0,025	± 0,05	5	12	10	9	9	7	6	5		7	6	5	32	27	24	21	18	16	14		17	14	9	115	215
2,00 ≤ d < 2,10	± 0,025	± 0,05	7,5	17	16	15	14	12	11	10		13	12	11	32	27	24	21	18	16	14		17	14	9	115	215
2,10 ≤ d < 2,15	± 0,025	± 0,06	7,5	16	15	14	13	11	10	9		12	11	10	32	27	24	21	18	16	14		17	14	9	115	215
2,15 ≤ d < 2,20	± 0,025	± 0,06	7,5	16	15	14	13	11	10	9		12	11	10	32	27	24	21	18	16	14		17	14	9	125	230
2,20 ≤ d < 2,30	± 0,025	± 0,06	7,5	15	14	13	12	10	9	8		12	11	10	31	27	24	21	18	16	14	20	17	14	9	125	230
2,30 ≤ d < 2,40	± 0,025	± 0,06	7,5	15	14	13	12	10	9	8		12	11	10	30	27	24	21	18	16	14	20	17	14	9	125	230
2,40 ≤ d < 2,50	± 0,025	± 0,06	7,5	15	13	12	11	9	8	7		11	10	9	8	29	26	23	20	18	16	14	19	15	12	7	125	230
2,50 ≤ d < 2,60	± 0,025	± 0,06	7,5	14	12	11	10	8	7	6		10	9	8	7	29	26	23	20	18	16	14	19	15	12	7	125	245
2,60 ≤ d < 2,70	± 0,025	± 0,06	7,5	12	11	10	9	7	6	5		9	8	7	6	29	26	23	20	18	16	14	19	15	12	7	125	245
2,70 ≤ d < 2,80	± 0,025	± 0,06	7,5	11	10	9	8	6	5			8	7	6	5	29	26	23	20	18	16		19	15	12	7	125	245
2,80 ≤ d < 2,90	± 0,03	± 0,07	7,5	11	10	9	8	6	5			8	7	6	5	28	26	23	20	18	16		18	15	12	7	135	255
2,90 ≤ d < 3,00	± 0,03	± 0,07	7,5	10	9	8	7	6	5			7	6	5	4	28	26	23	20	18	16		18	15	12	7	135	255
3,00 ≤ d < 3,10	± 0,03	± 0,07	10	15	14	13	12	10	9			11	10	9	8	27	25	21	18	16	14		18	12	8	5	135	255
3,10 ≤ d < 3,20	± 0,03	± 0,07	10	14	13	12	11	9	8			10	9	8	7	27	25	21	18	16	14		13	12	8	5	135	255
3,20 ≤ d < 3,30	± 0,03	± 0,07	10	13	12	11	10	8	7			9	8	7	6	27	25	21	18	16	14		13	12	8	5	135	265
3,30 ≤ d < 3,40	± 0,03	± 0,07	10	12	11	10	9	7	6			9	8	7	6	27	25	21	18	16	14		13	12	8	5	135	265
3,40 ≤ d < 3,50	± 0,03	± 0,07	10	11	10	9	8	6				8	7	6	5	27	25	21	18	16			13	12	8	5	135	265
3,50 ≤ d < 3,60	± 0,03	± 0,07	10	10	9	8	7	5				7	6	5	4	26	24	20	16	14			11	10	6	5	135	265