SLOVENSKI STANDARD
SIST EN 10218-2:1997

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Jeklena žica in žični izdelki - Splošno - 2. del: Mere žic in tolerance

Steel wire and wire products - General - Part 2: Wire dimensions and tolerances

Stahldraht und Drahterzeugnisse - Allgemeines - Teil 2: Drahtmaße und Toleranzen

Fils et produits tréfilés en acier - Généralités - Partie 2: Dimensions et tolérances des fils

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ICS:

77.140.65	Jeklene žice, jeklene vrvi in verige	Steel wire, wire ropes and link chains

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English version

Steel wire and wire products - General - Part 2: Wire dimensions and tolerances

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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.

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CEN

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

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Foreword

This European Standard has been prepared by Technical Committee ECISS/TC 30 "Steel wires", 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of an identical text or by endorsement, at the latest by December 1996, and conflicting national standards shall be withdrawn at the latest by December 1996.

The standard comprises the following Parts:

Part 1 : Test methods

Part 2 : Wire dimensions and tolerances

According to the CEN/CENELEC Internal Regulations, the national standards organizations of 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 Part of this European standard specifies the tolerances on diameter of round wire and, where applicable, on the length of round wire cut to length, for bright steel wire, (i.e. uncoated), metallic coated steel wire and non-metallic coated steel wire.

This standard should not be applied where other requirements for dimensions and tolerances are specified in a particular product standard.

2 Normative references

This EN incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate placed 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 EN only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies

EN 10079 Definition of steel products

3 Definitions

3.1 wire: For definition of wire see EN 10079.

As well as being supplied in the uncoated (bright) condition, wire can also be supplied with metallic or non-metallic coatings or both. The metallic coating can be as a finished coating or as a drawn finished coating.

3.2 cut length: A straightened piece of wire cut to a specified length.

4 Wire diameter tolerances

4.1 General

Diameter measurements shall be made at any cross-section and shall not differ from the tolerances specified in the relevant tables in this standard.

NOTE 1: Diameter tolerances may vary when cut lengths are supplied by a third party.

NOTE 2: Diameter tolerances are calculated as follows:

T1 = 0,035√d
T2 = 0,027√d
T3 = 0,021√d
T4 = 0,015√d
T5 = 0,010√d

where d is the diameter measured in millimetres.

4.2 Tolerances on diameter for uncoated and zinc coated round steel wire

The purchaser or the product standard shall indicate the tolerance range required from table 1.

The diameter shall be within the relevant tolerance range given in table 1.

NOTE: Unless otherwise specified on the order/enquiry or the product standard, tolerances class T1 would generally be used for heavy galvanized (A) wire, T2 would generally be used for other galvanized wire, and T3, T4 and T5 would generally be used for bright drawn wire in increasing order of precision required.

4.3 Out of roundness (ovality)

The out of roundness is the difference between maximum and minimum diameter of the wire at any cross-section and shall not be more than one half of the total tolerance given in table 1.

4.4 Tolerances on diameter of organic coated wire

4.4.1 *Extruded organic coating*

Tolerances on diameter of extruded organic coated wire are given in table 2.

The core wire can be either bright or metallic coated (usually zinc).

4.4.2 *Sintered organic coating*

The tolerances on diameter of sintered organic coated wire are given in table 2. Generally the core wire is metallic coated (usually zinc coated).

Table 1: Diameter tolerances

For diameters from 0,050mm to 25,00mm the tolerances on diameter shall be as follows:

Diameter tolerance mm	Wire diameter range (mm) (d)				
	T1	T2	T3	T4	T5
±0,003	-	-	-	-	0,050 ≤ d < 0,091
±0,004	-	-	-	0,05 ≤ d < 0,072	0,091 ≤ d < 0,17
±0,005	-	-	-	0,072 ≤ d < 0,12	0,17 ≤ d < 0,26
±0,006	-	-	0,05 ≤ d < 0,12	0,12 ≤ d < 0,17	0,26 ≤ d < 0,37
±0,008	-	-	0,12 ≤ d < 0,15	0,17 ≤ d < 0,29	0,37 ≤ d < 0,65
±0,010	-	-	0,15 ≤ d < 0,23	0,29 ≤ d < 0,45	0,65 ≤ d < 1,01
±0,012	-	-	0,23 ≤ d < 0,33	0,45 ≤ d < 0,65	1,01 ≤ d < 1,45
±0,015	-	0,20 ≤ d < 0,31	0,33 ≤ d < 0,52	0,65 ≤ d < 1,01	1,45 ≤ d < 2,26
±0,020	-	0,31 ≤ d < 0,55	0,52 ≤ d < 0,91	1,01 ≤ d < 1,78	2,26 ≤ d < 4,01
±0,025	0,30 ≤ d < 0,52	0,55 ≤ d < 0,86	0,91 ≤ d < 1,42	1,78 ≤ d < 2,78	4,01 ≤ d < 6,26
±0,030	0,52 ≤ d < 0,74	0,86 ≤ d < 1,24	1,42 ≤ d < 2,05	2,78 ≤ d < 4,01	6,26 ≤ d < 9,01
±0,035	0,74 ≤ d < 1,01	1,24 ≤ d < 1,69	2,05 ≤ d < 2,78	4,01 ≤ d < 5,45	9,01 ≤ d < 12,26
±0,040	1,01 ≤ d < 1,31	1,69 ≤ d < 2,20	2,78 ≤ d < 3,63	5,45 ≤ d < 7,12	12,26 ≤ d < 16,01
±0,045	1,31 ≤ d < 1,66	2,20 ≤ d < 2,78	3,63 ≤ d < 4,60	7,12 ≤ d < 9,01	16,01 ≤ d < 20,26
±0,050	1,66 ≤ d < 2,05	2,78 ≤ d < 3,43	4,60 ≤ d < 5,67	9,01 ≤ d < 11,12	20,26 ≤ d ≤ 25,00
±0,060	2,05 ≤ d < 2,94	3,43 ≤ d < 4,94	5,67 ≤ d < 8,17	11,12 ≤ d < 16,01	-
±0,070	2,94 ≤ d < 4,01	4,94 ≤ d < 6,73	8,17 ≤ d < 11,12	16,01 ≤ d < 21,77	-
±0,080	4,01 ≤ d < 5,23	6,73 ≤ d < 8,78	11,12 ≤ d < 14,52	21,77 ≤ d ≤ 25,00	-
±0,090	5,23 ≤ d < 6,62	8,78 ≤ d < 11,12	14,52 ≤ d < 18,37	-	-
±0,100	6,62 ≤ d < 8,17	11,12 ≤ d < 13,72	18,37 ≤ d < 22,68	-	-
±0,120	8,17 ≤ d < 11,76	13,72 ≤ d < 19,76	22,68 ≤ d ≤ 25,00	-	-
±0,140	11,76 ≤ d < 16,01	19,76 ≤ d ≤ 25,00	-	-	-
±0,160	16,01 ≤ d < 20,90	-	-	-	-
±0,180	20,90 ≤ d ≤ 25,00	-	-	-	-

Table 2: Tolerances on diameter and coating thickness of sintered and extruded organic coated wire

Diameter of organic coated wire mm	Tolerance on overall diameter of organic coating mm	Minimum coating thickness		Minimum concentricity %	
		Extruded mm	Sintered mm	Extruded	Sintered
$d \leq 1{,}00$	$\pm$ 0,10	0,20	0,12	75	65
$1{,}01 \leq d \leq 2{,}00$	$\pm$ 0,10	0,25	0,12	75	65
$2{,}01 \leq d \leq 3{,}15$	$\pm$ 0,15	0,35	0,15	75	65
$3{,}16 \leq d \leq 6{,}00$	$\pm$ 0,20	0,40	0,20	75	65
$6{,}01 \leq d \leq 13{,}00$	$\pm$ 0,25	0,50	-	75	65

NOTES

1 Tolerances on zinc or zinc alloy coated wire diameter are T1 in table 1.

2 Concentricity is equal to 100 x minimum radial thickness over the maximum radial thickness as specified in the coating standard.

3 Extruded refers to non-bonded material.