



SLOVENSKI STANDARD
oSIST prEN 10218-2:2008
01-september-2008

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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

Ta slovenski standard je istoveten z: prEN 10218-2

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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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EUROPEAN STANDARD
NORME EUROPÉENNE
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ICS 77.140.65

Will supersede EN 10218-2:1996

English Version

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

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

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

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee ECISS/TC 30.

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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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Page

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Terms and definitions	4
4 Wire diameter tolerance	5
4.1 Tolerance on diameter of uncoated and metallic coated round steel wire	5
4.1.1 General.....	5
4.1.2 Out of roundness (ovality)	6
4.2 Tolerances on diameter of organic coated wire	8
4.2.1 Extruded organic coating	8
4.2.2 Sintered organic coating.....	8
5 Tolerance on cut lengths	9
5.1 Tolerance on length.....	9
5.2 Tolerance and straightness	9
6 Length of wire in coil.....	10

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Foreword

This document (prEN 10218-2:2008) has been prepared by Technical Committee ECISS/TC 30 “Steel wires”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 10218-2:1996.

The standard will comprise the following parts:

- *Part 1: Test methods*
- *Part 2: Wire dimensions and tolerances*

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prEN 10218-2:2008 (E)**1 Scope**

This part of the 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

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 10079, *Definition of steel products*.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 wire

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.

[For definition of wire, see EN 10079]

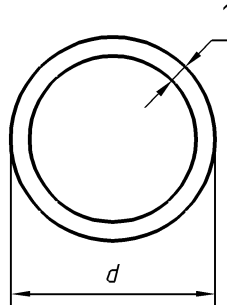
3.2 cut length

a straightened piece of wire cut to a specified length

4 Wire diameter tolerance

4.1 Tolerance on diameter of uncoated and metallic coated round steel wire

4.1.1 General



Key

1 metallic coating thickness

d is the overall diameter measured in millimetres (including where existing the metallic coating)

Figure 1 — For Table 1

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:

$$T1 = 0,035 \sqrt{d}$$

$$T2 = 0,027 \sqrt{d}$$

$$T3 = 0,021 \sqrt{d}$$

$$T4 = 0,015 \sqrt{d}$$

$$T5 = 0,010 \sqrt{d}$$

Where

d is the overall diameter measured in millimetres (including where existing the metallic coating)

The purchaser or the product standard shall indicate the tolerance range required from Table 1;

The overall diameter shall be within the relevant tolerance range given in Table 1; the producer will adapt processing parameters to ensure compliance with the required properties of the wire in the respective product standard, taking into account the influence of the coating thickness (if applicable).

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.

prEN 10218-2:2008 (E)

4.1.2 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.

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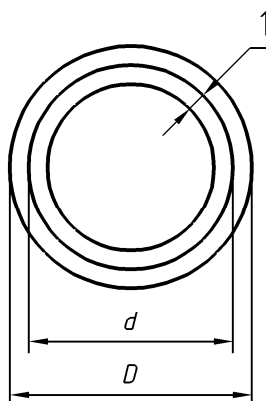
Table 1 — Diameter tolerances

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

Dimensions in millimetres

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

4.2 Tolerances on diameter of organic coated wire



Key

1 metallic coating thickness

d is the overall diameter measured in millimetres (including where existing the metallic coating)

D is the overall diameter measured in millimetres (as opposed to d = steel wire diameter in millimetres)

Figure 2 — For Table 2

4.2.1 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).

4.2.2 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).