भारतीय मानक
Indian Standard

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IEC 60317-0-2 : 2020

विशेष प्रकार की कुंडलण तारें — विशिष्टियाँ

भाग 0 सामान्य अपेक्षाएँ

अनुभाग 2 अनेमलित आयताकार कॉपर की तार

(तीसरा पुनरीक्षण)

Particular Types of Winding Wires — Specifications

Part 0 General Requirements

Section 2 Enamelled Rectangular Copper Wire

(Third Revision)

ICS 29.060.10

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Winding Wire Sectional Committee, ETD 33

NATIONAL FOREWORD

This Indian Standard (Third Revision) which is s identical to IEC 60317-0-2 : 2020 'Specifications for particular types of winding wires — Part 0-2: General requirements — Enamelled rectangular copper wire (*third revision*)' Issued By The International Electrotechnical Commission (IEC) was adopted by the Bureau of Indian Standards on the recommendation of the Winding Wire Sectional Committee and approval of the Electrotechnical Division Council.

This standard was first published in 1993 and subsequently revised in 2011 and 2018. This revision has been undertaken to align it with the latest version of IEC 60317-0-2 : 2020.

The text of the IEC standard has been approved as suitable for publication as an Indian Standard without deviations. Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'; and

b) Comma (,) has been used as a decimal marker, while in Indian Standards the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to International Standards for which Indian Standards also exist. The corresponding Indian Standards, which are to be substituted, are listed below along with their degree of equivalence for the editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 3 Preferred numbers — Series of preferred numbers	IS 1076 (Part 1) : 1985/ISO 3 : 1973 Preferred numbers: Part 1 Series of preferred numbers (*second revision*)	Identical
ISO 6892-1 : 2016 Metallic materials — Tensile testing — Part 1: Method of test at room temperature	IS 1608 (Part 1) : 2022/ISO 6892-1 : 2019 Metallic materials — Tensile testing: Part 1 Method of test at room temperature (*fifth revision*)	Identical
IEC 60172 Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires	IS 5825 : 2018/IEC 60172 : 2015 Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires (*second revision*)	Identical
IEC 60851 (all parts) Winding wires — Test methods	IS 13778 (all parts)/IEC 60851 (all parts) Winding wires — Test methods	Identical

The Committee has reviewed the provisions of the following international standards referred in this adopted standard and decided that they are acceptable for use in conjunction with this standard.

International Standard	*Title*
ISO 1190-1	Copper and copper alloys — Code of designation — Part 1: Designation of materials
EN 1977	Copper and copper alloys — Copper drawing stock (wire rod)
ASTM B49	Standard specification for copper rod for electrical purposes

(*Continued on third cover*)

CONTENTS

INTRODUCTION

This part of IEC 60317 forms an element of a series of standards which deals with insulated wires used for windings in electrical equipment. It is composed of the following series:

1) *Winding wires – Test methods* (IEC 60851 series);
2) *Specifications for particular types of winding wires* (IEC 60317 series);
3) *Packaging of winding wires* (IEC 60264 series).

Indian Standard

PARTICULAR TYPES OF WINDING WIRES — SPECIFICATIONS

PART 0 GENERAL REQUIREMENTS

SECTION 2 ENAMELLED RECTANGULAR COPPER WIRE

(Third Revision)

1 Scope

This part of IEC 60317 specifies the general requirements of enamelled rectangular copper winding wires.

The range of nominal conductor dimensions is given in 4.1 and the relevant specification sheet.

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.

IEC 60172, *Test procedure for the determination of the temperature index of enamelled and tape wrapped winding wires*

IEC 60851 (all parts), *Winding wires – Test methods*

IEC 60851-3, *Winding wires – Test methods – Part 3: Mechanical properties*

ISO 3, *Preferred numbers – Series of preferred numbers*

ISO 1190-1, *Copper and copper alloys – Code of designation – Part 1: Designation of materials*

ISO 6892-1:2016, *Metallic materials – Tensile testing – Part 1: Method of test at room temperature*

EN 1977, *Copper and copper alloys – Copper drawing stock (wire rod)*

ASTM B49*, Standard Specification for Copper Rod for Electrical Purposes*

3 Terms, definitions, general notes and appearance

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6892-1:2016 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1.1
class
thermal performance of a wire expressed by the temperature index and the heat shock temperature

3.1.2
coating
material which is deposited on a conductor or wire by a suitable means and then dried and/or cured

3.1.3
conductor
bare metal after removal of the insulation

3.1.4
crack
opening in the insulation which exposes the conductor to view at the stated magnification

3.1.5
dual coating
insulation composed of two different materials, an underlying and a superimposed coating

3.1.6
enamelled wire
wire coated with an insulation of cured resin

3.1.7
grade
<enamelled rectangular copper wire> range of increase in the overall diameter of the wire due to the enamel

3.1.8
insulation
coating or covering on the conductor with the specific function of withstanding voltage

3.1.9
nominal conductor dimension
designation of the conductor size in accordance with the IEC 60317 series

3.1.10
normal vision
20/20 vision, with corrective lenses, if necessary

3.1.11
winding wire
wire used for winding a coil to provide a magnetic field

3.1.12
wire
conductor coated or covered with an insulation

3.1.13
bonding layer
material that is deposited on an enamelled wire an which has the specific function of bonding wires together

3.2 General notes

3.2.1 Methods of test

All methods of test to be used for this document are given in IEC 60851 (all parts).

The clause numbers used in this document are identical to the corresponding test numbers in IEC 60851 (all parts).

In case of inconsistencies between the publication on methods of test and this document, IEC 60317-0-2 shall prevail.

Where no specific range of nominal conductor dimensions is given for a test, the test applies to all nominal conductor dimensions covered by the specification sheet.

Unless otherwise specified, all tests shall be carried out at a temperature from 15 °C to 40 °C and a relative humidity from 25 % to 75 %. Before measurements are made, the specimens shall be preconditioned under these atmospheric conditions for a time sufficient to allow the specimens to reach stability.

The wire to be tested shall be removed from the packaging in such a way that the wire will not be subjected to tension or unnecessary bends. Before each test, sufficient wire should be discarded to ensure that any damaged wire is not included in the test specimens.

3.2.2 Winding wire

When reference is made to a winding wire according to a standard of the IEC 60317 series mentioned under Clause 2, the following information is given in the description:

– reference to IEC specification;
– nominal conductor dimensions in millimetres (width × thickness);
– grade;
– nominal proof strength minimum (and maximum) value.

EXAMPLE: IEC 60317-17 – 4,00 × 1,00 Grade 1 $Rp_{0.2}$ = 120 $N \cdot mm^{-2}$

3.3 Appearance

The film coating shall be essentially smooth and continuous, free from streaks, blisters and foreign material when examined with normal vision, in accordance with good commercial practice, as wound on the original spool or reel.

4 Dimensions

4.1 Conductor dimensions

The dimensions for width and thickness of conductors of winding wires with rectangular cross-section, recommended in this document, are taken from the R 20 series in ISO 3.

Preferred sizes are combinations of width and thickness, both in accordance with the R 20 series.

Intermediate sizes are combinations of width or thickness in accordance with the R 20 series with the other dimension in accordance with the R 40 series.

This document covers:

– widths from 2,00 mm up to and including 31,50 mm;

– thicknesses from 0,80 mm up to and including 10,00 mm.

The ratio width/thickness shall be within the specified limits. Combinations of R 40 and R 40 are not allowed in the case of additional sizes.

The ratio width/thickness shall be greater than or equal to 1,4:1 and shall not exceed 8:1.

The actual values of dimensions are given in Table 2.

The nominal cross-sectional areas for preferred sizes are given in Table 2, and the nominal cross-sectional areas for intermediate sizes are given in Table A.1.

4.2 Tolerance on conductor dimensions

The conductor dimensions shall not differ from the nominal values by more than the tolerance given in Table 1.

Table 1 – Conductor tolerances

Nominal width or thickness of the conductor mm		Tolerance ±
Over	Up to and including	mm
–	3,15	0,030
3,15	6,30	0,050
6,30	12,50	0,070
12,50	16,00	0,100
16,00	22,40	0,130
22,40	31,50	0,150

4.3 Rounding of corners

The arc shall merge smoothly into the flat surfaces of the conductor and the strip shall be free from sharp, rough and projecting edges. The conductor shall have radiused corners complying with Table 3.The specified radii shall be maintained within ±25 %.

Table 2 – Nominal cross-sectional areas of preferred sizes

Width mm	Thickness → 0,80	0,90	1,00	1,12	1,25	1,40	1,60	1,80	2,00	2,24	2,50	2,80	3,15	3,55	4,00	4,50	5,00	5,60	6,30	7,10	8,00	9,00	10,0
	Corner radius *			Corner radius (0,5 mm)				Corner radius (0,65 mm)			Corner radius (0,80 mm)				Corner radius (1,0 mm)				Corner radius (1,25 mm)				
2,00	1,463	1,626	1,785	2,025	2,285	2,585																	
2,24	1,655	1,842	2,025	2,294	2,585	2,921	3,369																
2,50	1,863	2,076	2,285	2,585	2,910	3,285	3,785	4,137															
2,80	2,103	2,346	2,585	2,921	3,285	3,705	4,265	4,677	5,237						Not recommended Ratio width/thickness smaller than 1,4:1								
3,15	2,383	2,661	2,935	3,313	3,723	4,195	4,825	5,307	5,937	6,693													
3,55	2,703	3,021	3,335	3,761	4,223	4,755	5,465	6,027	6,737	7,589	8,326												
4,00	3,063	3,426	3,785	4,265	4,785	5,385	6,185	6,837	7,637	8,597	9,451	10,65											
4,50	3,463	3,876	4,285	4,825	5,410	6,085	6,985	7,737	8,637	9,717	10,70	12,05	13,63										
5,00	3,863	4,326	4,785	5,385	6,035	6,785	7,785	8,637	9,637	10,84	11,95	13,45	15,20	17,20									
5,60	4,343	4,866	5,385	6,057	6,785	7,625	8,745	9,717	10,84	12,18	13,45	15,13	17,09	19,33	21,54								
6,30	4,903	5,496	6,085	6,841	7,660	8,605	9,865	10,98	12,24	13,75	15,20	17,09	19,30	21,82	24,34	27,49							
7,10		6,216	6,885	7,737	8,660	9,725	11,15	12,42	13,84	15,54	17,20	19,33	21,82	24,66	27,54	31,09	34,64						
8,00			7,785	8,745	9,785	10,99	12,59	14,04	15,64	17,56	19,45	21,85	24,65	27,85	31,14	35,14	39,14	43,94					
9,00				9,865	11,04	12,39	14,19	15,84	17,64	19,80	21,95	24,65	27,80	31,40	35,14	39,64	44,14	49,54	55,36				
10,0					12,29	13,79	15,79	17,64	19,64	22,04	24,45	27,45	30,95	34,95	39,14	44,14	49,14	55,14	61,66	69,66			
11,2						15,47	17,71	19,80	22,04	24,73	27,45	30,81	34,73	39,21	43,94	49,54	55,14	61,86	69,22	78,18	88,26		
12,5							19,79	22,14	24,64	27,64	30,70	34,45	38,83	43,83	49,14	55,39	61,64	69,14	77,41	87,41	98,66	111,2	
14,0								24,84	27,64	31,00	34,45	38,65	43,55	49,15	55,14	62,14	69,14	77,54	86,86	98,06	110,7	124,7	138,7
16,0									31,64	35,48	39,45	44,25	49,85	56,25	63,14	71,14	79,14	88,74	99,46	112,3	126,7	142,7	158,7
18,0										39,96	44,45	49,85	56,15	63,35	71,14	80,14	89,14	99,94	112,1	126,5	142,7	160,7	178,7
20,0			Not recommended Ratio width/thickness over 8:1								49,45	55,45	62,45	70,45	79,14	89,14	99,14	111,1	124,7	140,7	158,7	178,7	198,7
22,4												62,17	70,01	78,97	88,74	99,94	111,1	124,6	139,8	157,7	177,9	200,3	222,7
25,0													78,20	88,20	99,14	111,6	124,1	139,1	156,2	176,2	198,7	223,7	248,7
28,0														98,85	111,1	125,1	139,1	155,9	175,1	197,5	222,7	250,7	278,7
31,5															125,1	140,9	156,6	175,5	197,1	222,3	250,7	282,2	313,7

* 0,5 × nominal thickness

Table 3 – Corner radii

Nominal thickness of conductor mm		Corner radius mm
Over	Up to and including	
–	1,00	0,5 × nominal thickness
1,00	1,60	0,50*
1,60	2,24	0,65**
2,24	3,55	0,80
3,55	5,60	1,00
5,60	10,00	1,25
If agreed between purchaser and supplier, the corner radii for wires with a width greater than 4,8 mm may be:		
* 0,5 mm × t, where t is the nominal thickness of the conductor;		
** 0,80 mm.		

4.4 Increase in dimensions due to the insulation and the bonding layer

4.4.1 Enamelled wires without a bonding layer

The increase in width or thickness due to the insulation shall be as given in Table 4.

Table 4 – Increases in dimensions

Grade	Increase in dimensions mm		
	Minimum	Nominal	Maximum
1	0,06	0,085	0,11
2	0,12	0,145	0,17

4.4.2 Enamelled wires with a bonding layer

The increase in dimensions due to the bonding layer for grades 1B and 2B shall be (0,04 ± 0,01) mm.

4.5 Overall dimensions

4.5.1 Nominal overall dimensions

4.5.1.1 Nominal overall dimensions without a bonding layer

The nominal overall dimensions shall be calculated as the sum of the nominal bare conductor and the nominal increase in dimension due to the insulation.

4.5.1.2 Nominal overall dimensions with a bonding layer

The nominal overall dimensions shall be calculated as the sum of the nominal bare conductor, the nominal increase in dimension due to the insulation, and the nominal increase in dimension due to the bonding layer.

4.5.2 Minimum overall dimensions

4.5.2.1 Minimum overall dimensions without a bonding layer

The minimum overall dimensions shall be calculated as the sum of the minimum bare conductor and the minimum increase in dimension due to the insulation.

4.5.2.2 Minimum overall dimensions with a bonding layer

The minimum overall dimensions shall be calculated as the sum of the minimum bare conductor, the minimum increase in dimension due to the insulation, and the minimum increase in dimension due to the bonding layer.

4.5.3 Maximum overall dimensions

4.5.3.1 Maximum overall dimensions without a bonding layer

The maximum overall dimensions shall be calculated as the sum of the maximum bare conductor and the maximum increase in dimension due to the insulation.

4.5.3.2 Maximum overall dimensions with a bonding layer

The maximum overall dimensions shall be calculated as the sum of the maximum bare conductor, the maximum increase in dimension due to the insulation, and the maximum increase in dimension due to the bonding layer.

5 Electrical resistance

The copper rod being used shall comply with at least one of EN 1977, ISO 1190-1 or ASTM B49.

The resistance of the wire shall be expressed as the DC resistance at 20 °C. The method used shall provide an accuracy of 0,5 %.

The maximum value of resistance shall be not greater than the value calculated for the minimum tolerated cross-sectional area of the conductor resulting from the minimum dimensions in thickness and width and the maximum for the corner radius, and with a resistivity given in Table 6.

One measurement shall be made.

6 Elongation

The percentage elongation after fracture shall be measured according to Clause 20 of ISO 6892-1:2016. When the nominal proof strength, plastic extension is not specified or a nominal proof strength, plastic extension of 80 N/mm^2 is required, the limits of Table 5 apply. Otherwise, the measurement is performed for reference only.

Table 5 – Percentage elongation after fracture

Nominal thickness of the conductor mm		Minimum elongation %
Over	Up to and including	
–	2,50	30
2,50	5,60	32
5,60	10,00	35

When the value of nominal proof strength, plastic extension is specified, the measured proof strength shall be within the tolerances given in Table 6.

Table 6 – Proof strength and resistivity

Proof strength		Maximum resistivity
Nominal value $N \cdot mm^{-2}$	Tolerance	$\Omega \cdot mm^2 \cdot m^{-1}$
80	−0 / +30 %	1/58
120	−0 / +20 %	1/58
150	−0 / +20 %	1/58
180	−0 / +20 %	1/57,5

The proof strength, plastic extension shall be measured at the specified percentage of plastic extension, with the method described in Clause 13 of ISO 6892-1:2016; if not otherwise specified, the percentage shall be 0,2 % ($R_{p0,2}$).

If required by the customer, the test shall be performed according to Clause 10 of ISO 6892-1:2016. Otherwise, the test shall be performed as described in IEC 60851-3.

7 Springiness (applicable to nominal proof strength ≤ 80 $N \cdot mm^{-2}$)

The wire shall not exceed the maximum springback of 5°.

8 Flexibility and adherence

8.1 Mandrel winding test

The coating shall show no crack after the wire has been bent flatwise and edgewise on a mandrel with a diameter as specified in Table 7.

Table 7 – Mandrel winding

Wire bent on		Mandrel diameter
Width	Sizes up to and including 10 mm	4 × width
	Sizes over 10 mm	5 × width
Thickness	All sizes	4 × thickness

8.2 Adherence test

The wire shall be stretched by 15 % or to the breaking point, whichever is less. The distance of loss of adherence shall be less than 1 × width.

9 Heat shock

The coating shall show no crack after the wire has been bent flatwise on a mandrel with a diameter of six times the thickness.

The minimum heat shock temperature is given in the relevant specification sheet.

10 Cut-through

Test requirement under consideration.

11 Resistance to abrasion

Test inappropriate.

12 Resistance to solvents

Using a pencil of hardness "H" and standard solvent, the coating shall not be removed.

13 Breakdown voltage

When tested at room temperature, at least four of the five specimens tested shall not break down at a voltage less than or equal to that given in Table 8, and the fifth shall not break down at less than 50 % of the values specified.

When required by the purchaser, the wire shall be tested at elevated temperature.

The elevated temperature is given in the relevant specification sheet.

Table 8 – Breakdown voltage

Grade	Minimum breakdown voltage (RMS) V			
	Without bonding layer		With bonding layer	
	Room temperature	Elevated temperature	Room temperature	Elevated temperature
1	1 000	750	1 500	1 000
2	2 000	1 500	2 500	2 000

14 Continuity of insulation

Test inappropriate.

15 Temperature index

The test shall be carried out on a rectangular wire in accordance with IEC 60172, unless otherwise agreed between the purchaser and the supplier.

When required by a purchaser, the supplier of the enamelled wire shall supply evidence that the wire meets the requirements for the temperature index.

NOTE 1 The temperature index requirement based on an extrapolated life of 20 000 h relates to enamelled wires tested unvarnished and not as part of an insulation system.

NOTE 2 Temperature in degrees Celsius corresponding to the temperature index is not necessarily that at which it is recommended that the wire be operated, and this will depend on many factors including the type of equipment involved.

16 Resistance to refrigerants

Test inappropriate.

17 Solderability

Test inappropriate.

18 Heat or solvent bonding

For requirements, the relevant specification sheet applies.

19 Dielectric dissipation factor

For requirements, the relevant specification sheet applies.

20 Resistance to transformer oil

For requirements, the relevant specification sheet applies.

21 Loss of mass

Test inappropriate.

23 Pin hole test

Test inappropriate.

30 Packaging

The kind of packaging may influence certain properties of the wire, for example springiness and proof strength. Therefore, the kind of packaging for example, the type of spool, shall be agreed between the purchaser and the supplier.

The wire shall be evenly and compactly wound on spools or placed in containers. No spool or container shall contain more than one length of wire unless agreed to by the purchaser and the supplier. Marking of the label when there is more than one length and/or identification of the separate lengths in the package shall be agreed to by the purchaser and the supplier.

Where wires are delivered in coils, the dimensions and the maximum weights of such coils shall be agreed between the purchaser and the supplier. Any additional protection for coils shall also be agreed between the purchaser and the supplier.

Labels shall be attached to each packaging unit as agreed between the supplier and the user and shall include the following information:

a) manufacturer's name and/or trademark;

b) type of wire and insulation, for instance trade name and/or IEC specification number;

c) having a bonding layer (if any);

d) nominal proof strength;

e) net mass of wire;

f) nominal dimension(s) of wire and grade of insulation;

g) date of manufacture.

Annex A
(informative)

Nominal cross-sectional areas for preferred and intermediate sizes

Table A.1 provides nominal cross-sectional areas for preferred and intermediate sizes of rectangular copper bare conductors, from which the user may select intermediate sizes only for technical reasons.

Table A.1 – Nominal cross-sectional areas

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area	Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2	mm	mm	mm	mm^2
2,00	0,80	*	1,463	2,50	1,18	0,5	2,735
	0,85	*	1,545		1,25	0,5	2,910
	0,90	*	1,626		1,32	0,5	3,085
	0,95	*	1,706		1,40	0,5	3,285
	1,00	*	1,785		1,50	0,5	3,535
					1,60	0,5	3,785
	1,06	0,5	1,905				
	1,12	0,5	2,025		1,70	0,65	3,887
	1,18	0,5	2,145		1,80	0,65	4,137
	1,25	0,5	2,285				
	1,32	0,5	2,425	2,65	0,80	*	1,983
	1,40	0,5	2,585		0,90	*	2,211
					1,00	*	2,435
2,12	0,80	*	1,559				
	0,90	*	1,734		1,12	0,5	2,753
	1,00	*	1,905		1,25	0,5	3,098
					1,40	0,5	3,495
	1,12	0,5	2,160		1,60	0,5	4,025
	1,25	0,5	2,435				
	1,40	0,5	2,753		1,80	0,65	4,407
2,24	0,80	*	1,655	2,80	0,80	*	2,103
	0,85	*	1,749		0,85	*	2,225
	0,90	*	1,842		0,90	*	2,346
	0,95	*	1,934		0,95	*	2,466
	1,00	*	2,025		1,00	*	2,585
	1,06	0,5	2,160		1,06	0,5	2,753
	1,12	0,5	2,294		1,12	0,5	2,921
	1,18	0,5	2,429		1,18	0,5	3,089
	1,25	0,5	2,585		1,25	0,5	3,285
	1,32	0,5	2,742		1,32	0,5	3,481
	1,40	0,5	2,921		1,40	0,5	3,705
	1,50	0,5	3,145		1,50	0,5	3,985
	1,60	0,5	3,369		1,60	0,5	4,265
2,36	0,80	*	1,751		1,70	0,65	4,397
	0,90	*	1,950		1,80	0,65	4,677
	1,00	*	2,145		1,90	0,65	4,957
					2,00	0,65	5,237
	1,12	0,5	2,429				
	1,25	0,5	2,735	3,00	0,80	*	2,263
	1,40	0,5	3,089		0,90	*	2,526
	1,60	0,5	3,561		1,00	*	2,785
2,50	0,80	*	1,863		1,12	0,5	3,145
	0,85	*	1,970		1,25	0,5	3,535
	0,90	*	2,076		1,40	0,5	3,985
	0,95	*	2,181		1,60	0,5	4,585
	1,00	*	2,285				
					1,80	0,65	5,037
	1,06	0,5	2,435		2,00	0,65	5,637
	1,12	0,5	2,585				

* 0,5 × nominal thickness

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
3,15	0,80	*	2,383
	0,85	*	2,522
	0,90	*	2,661
	0,95	*	2,799
	1,00	*	2,935
	1,06	0,5	3,124
	1,12	0,5	3,313
	1,18	0,5	3,502
	1,25	0,5	3,723
	1,32	0,5	3,943
	1,40	0,5	4,195
	1,50	0,5	4,510
	1,60	0,5	4,825
	1,70	0,65	4,992
	1,80	0,65	5,307
	1,90	0,65	5,622
	2,00	0,65	5,937
	2,12	0,65	6,315
	2,24	0,65	6,693
3,35	0,80	*	2,543
	0,90	*	2,841
	1,00	*	3,135
	1,12	0,5	3,537
	1,25	0,5	3,973
	1,40	0,5	4,475
	1,60	0,5	5,145
	1,80	0,65	5,667
	2,00	0,65	6,337
	2,24	0,65	7,141
3,55	0,80	*	2,703
	0,85	*	2,862
	0,90	*	3,021
	0,95	*	3,179
	1,00	*	3,335
	1,06	0,5	3,548
	1,12	0,5	3,761
	1,18	0,5	3,974
	1,25	0,5	4,223
	1,32	0,5	4,471
	1,40	0,5	4,755
	1,50	0,5	5,110
	1,60	0,5	5,465
	1,70	0,65	5,672
	1,80	0,65	6,027
	1,90	0,65	6,382
	2,00	0,65	6,737
	2,12	0,65	7,163
	2,24	0,65	7,589
	2,36	0,8	7,829
	2,50	0,8	8,326
3,75	0,80	*	2,863
	0,90	*	3,201
	1,00	*	3,535
	1,12	0,5	3,985
	1,25	0,5	4,473
	1,40	0,5	5,035
	1,60	0,5	5,785
	1,80	0,65	6,387
	2,00	0,65	7,137
	2,24	0,65	8,037
	2,50	0,8	8,826
4,00	0,80	*	3,063
	0,85	*	3,245
	0,90	*	3,426
	0,95	*	3,606
	1,00	*	3,785
	1,06	0,5	4,025
	1,12	0,5	4,265
	1,18	0,5	4,505
	1,25	0,5	4,785
	1,32	0,5	5,065
	1,40	0,5	5,385
	1,50	0,5	5,785
	1,60	0,5	6,185
	1,70	0,65	6,437
	1,80	0,65	6,837
	1,90	0,65	7,237
	2,00	0,65	7,637
	2,12	0,65	8,117
	2,24	0,65	8,597
	2,36	0,8	8,891
	2,50	0,8	9,451
	2,65	0,8	10,05
	2,80	0,8	10,65
4,25	0,80	*	3,263
	0,90	*	3,651
	1,00	*	4,035
	1,12	0,5	4,545
	1,25	0,5	5,098
	1,40	0,5	5,735
	1,60	0,5	6,585
	1,80	0,65	7,287
	2,00	0,65	8,137
	2,24	0,65	9,157
	2,50	0,8	10,08
	2,80	0,8	11,35

* 0,5 × nominal thickness

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
4,50	0,80	*	3,463
	0,85	*	3,670
	0,90	*	3,876
	0,95	*	4,081
	1,00	*	4,285
	1,06	0,5	4,555
	1,12	0,5	4,825
	1,18	0,5	5,095
	1,25	0,5	5,410
	1,32	0,5	5,725
	1,40	0,5	6,085
	1,50	0,5	6,535
	1,60	0,5	6,985
	1,70	0,65	7,287
	1,80	0,65	7,737
	1,90	0,65	8,187
	2,00	0,65	8,637
	2,12	0,65	9,177
	2,24	0,65	9,717
	2,36	0,8	10,07
	2,50	0,8	10,70
	2,65	0,8	11,38
	2,80	0,8	12,05
	3,00	0,8	12,95
	3,15	0,8	13,63
4,75	0,80	*	3,663
	0,90	*	4,101
	1,00	*	4,535
	1,12	0,5	5,105
	1,25	0,5	5,723
	1,40	0,5	6,435
	1,60	0,5	7,385
	1,80	0,65	8,187
	2,00	0,65	9,137
	2,24	0,65	10,28
	2,50	0,8	11,33
	2,80	0,8	12,75
	3,15	0,8	14,41
5,00	0,80	*	3,863
	0,85	*	4,095
	0,90	*	4,326
	0,95	*	4,556
	1,00	*	4,785
	1,06	0,5	5,085
	1,12	0,5	5,385
	1,18	0,5	5,685
	1,25	0,5	6,035
	1,32	0,5	6,385
	1,40	0,5	6,785
	1,50	0,5	7,285
	1,60	0,5	7,785
5,00	1,70	0,65	8,137
	1,80	0,65	8,637
	1,90	0,65	9,137
	2,00	0,65	9,637
	2,12	0,65	10,24
	2,24	0,65	10,84
	2,36	0,8	11,25
	2,50	0,8	11,95
	2,65	0,8	12,70
	2,80	0,8	13,45
	3,00	0,8	14,45
	3,15	0,8	15,20
	3,35	0,8	16,20
	3,55	0,8	17,20
5,30	0,80	*	4,103
	0,90	*	4,596
	1,00	*	5,085
	1,12	0,5	5,721
	1,25	0,5	6,410
	1,40	0,5	7,205
	1,60	0,5	8,265
	1,80	0,65	9,177
	2,00	0,65	10,24
	2,24	0,65	11,51
	2,50	0,8	12,70
	2,80	0,8	14,29
	3,15	0,8	16,15
	3,55	0,8	18,27
5,60	0,80	*	4,343
	0,85	*	4,605
	0,90	*	4,866
	0,95	*	5,126
	1,00	*	5,385
	1,06	0,5	5,721
	1,12	0,5	6,057
	1,18	0,5	6,393
	1,25	0,5	6,785
	1,32	0,5	7,177
	1,40	0,5	7,625
	1,50	0,5	8,185
	1,60	0,5	8,745
	1,70	0,65	9,157
	1,80	0,65	9,717
	1,90	0,65	10,28
	2,00	0,65	10,84
	2,12	0,65	11,51
	2,24	0,65	12,18
	2,36	0,8	12,67
	2,50	0,8	13,45
	2,65	0,8	14,29
	2,80	0,8	15,13

* 0,5 × nominal thickness

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
5,60	3,00	0,8	16,25
	3,15	0,8	17,09
	3,35	0,8	18,21
	3,55	0,8	19,33
	3,75	1,0	20,14
	4,00	1,0	21,54
6,00	0,80	*	4,663
	0,90	*	5,226
	1,00	*	5,785
	1,12	0,5	6,505
	1,25	0,5	7,285
	1,40	0,5	8,185
	1,60	0,5	9,385
	1,80	0,65	10,44
	2,00	0,65	11,64
	2,24	0,65	13,08
	2,50	0,8	14,45
	2,80	0,8	16,25
	3,15	0,8	18,35
	3,55	0,8	20,75
	4,00	1,0	23,14
6,30	0,80	*	4,903
	0,85	*	5,200
	0,90	*	5,496
	0,95	*	5,791
	1,00	*	6,085
	1,06	0,5	6,463
	1,12	0,5	6,841
	1,18	0,5	7,219
	1,25	0,5	7,660
	1,32	0,5	8,101
	1,40	0,5	8,605
	1,50	0,5	9,235
	1,60	0,5	9,865
	1,70	0,65	10,35
	1,80	0,65	10,98
	1,90	0,65	11,61
	2,00	0,65	12,24
	2,12	0,65	12,99
	2,24	0,65	13,75
	2,36	0,8	14,32
	2,50	0,8	15,20
	2,65	0,8	16,15
	2,80	0,8	17,09
	3,00	0,8	18,35
	3,15	0,8	19,30
	3,35	0,8	20,56
	3,55	0,8	21,82

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
6,30	3,75	1,0	22,77
	4,00	1,0	24,34
	4,25	1,0	25,92
	4,50	1,0	27,49
6,70	0,90	*	5,856
	1,00	*	6,485
	1,12	0,5	7,289
	1,25	0,5	8,160
	1,40	0,5	9,165
	1,60	0,5	10,51
	1,80	0,65	11,70
	2,00	0,65	13,04
	2,24	0,65	14,65
	2,50	0,8	16,20
	2,80	0,8	18,21
	3,15	0,8	20,56
	3,55	0,8	23,24
	4,00	1,0	25,94
	4,50	1,0	29,29
7,10	0,90	*	6,216
	0,95	*	6,551
	1,00	*	6,885
	1,06	0,5	7,311
	1,12	0,5	7,737
	1,18	0,5	8,163
	1,25	0,5	8,660
	1,32	0,5	9,157
	1,40	0,5	9,725
	1,50	0,5	10,44
	1,60	0,5	11,15
	1,70	0,65	11,71
	1,80	0,65	12,42
	1,90	0,65	13,13
	2,00	0,65	13,84
	2,12	0,65	14,69
	2,24	0,65	15,54
	2,36	0,8	16,21
	2,50	0,8	17,20
	2,65	0,8	18,27
	2,80	0,8	19,33
	3,00	0,8	20,75
	3,15	0,8	21,82
	3,35	0,8	23,24
	3,55	0,8	24,66
	3,75	1,0	25,77
	4,00	1,0	27,54
	4,25	1,0	29,32

* 0,5 × nominal thickness

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
7,10	4,50	1,0	31,09
	4,75	1,0	32,87
	5,00	1,0	34,64
7,50	1,00	*	7,285
	1,12	0,5	8,185
	1,25	0,5	9,160
	1,40	0,5	10,29
	1,60	0,5	11,79
	1,80	0,65	13,14
	2,00	0,65	14,64
	2,24	0,65	16,44
	2,50	0,8	18,20
	2,80	0,8	20,45
	3,15	0,8	23,08
	3,55	0,8	26,08
	4,00	1,0	29,14
	4,50	1,0	32,89
	5,00	1,0	36,64
8,00	1,00	*	7,785
	1,06	0,5	8,265
	1,12	0,5	8,745
	1,18	0,5	9,225
	1,25	0,5	9,785
	1,32	0,5	10,35
	1,40	0,5	10,99
	1,50	0,5	11,79
	1,60	0,5	12,59
	1,70	0,65	13,24
	1,80	0,65	14,04
	1,90	0,65	14,84
	2,00	0,65	15,64
	2,12	0,65	16,60
	2,24	0,65	17,56
	2,36	0,8	18,33
	2,50	0,8	19,45
	2,65	0,8	20,65
	2,80	0,8	21,85
	3,00	0,8	23,45
	3,15	0,8	24,65
	3,35	0,8	26,25
	3,55	0,8	27,85
	3,75	1,0	29,14
	4,00	1,0	31,14
	4,25	1,0	33,14
	4,50	1,0	35,14
	4,75	1,0	37,14
	5,00	1,0	39,14
	5,30	1,0	41,54
	5,60	1,0	43,94

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
8,50	1,12	0,5	9,305
	1,25	0,5	10,41
	1,40	0,5	11,69
	1,60	0,5	13,39
	1,80	0,65	14,94
	2,00	0,65	16,64
	2,24	0,65	18,68
	2,50	0,8	20,70
	2,80	0,8	23,25
	3,15	0,8	26,23
	3,55	0,8	29,63
	4,00	1,0	33,14
	4,50	1,0	37,39
	5,00	1,0	41,64
	5,60	1,0	46,74
9,00	1,12	0,5	9,865
	1,18	0,5	10,41
	1,25	0,5	11,04
	1,32	0,5	11,67
	1,40	0,5	12,39
	1,50	0,5	13,29
	1,60	0,5	14,19
	1,70	0,65	14,94
	1,80	0,65	15,84
	1,90	0,65	16,74
	2,00	0,65	17,64
	2,12	0,65	18,72
	2,24	0,65	19,80
	2,36	0,8	20,69
	2,50	0,8	21,95
	2,65	0,8	23,30
	2,80	0,8	24,65
	3,00	0,8	26,45
	3,15	0,8	27,80
	3,35	0,8	29,60
	3,55	0,8	31,40
	3,75	1,0	32,89
	4,00	1,0	35,14
	4,25	1,0	37,39
	4,50	1,0	39,64
	4,75	1,0	41,89
	5,00	1,0	44,14
	5,30	1,0	46,84
	5,60	1,0	49,54
9,50	1,25	0,5	11,66
	1,40	0,5	13,09
	1,60	0,5	14,99
	1,80	0,65	16,74
	2,00	0,65	18,64
	2,24	0,65	20,92

* 0,5 × nominal thickness

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
9,50	2,50	0,8	23,20
	2,80	0,8	26,05
	3,15	0,8	29,38
	3,55	0,8	33,18
	4,00	1,0	37,14
	4,50	1,0	41,89
	5,00	1,0	46,64
	5,60	1,0	52,34
10,00	1,25	0,5	12,29
	1,32	0,5	12,99
	1,40	0,5	13,79
	1,50	0,5	14,79
	1,60	0,5	15,79
	1,70	0,65	16,64
	1,80	0,65	17,64
	1,90	0,65	18,64
	2,00	0,65	19,64
	2,12	0,65	20,84
	2,24	0,65	22,04
	2,36	0,8	23,05
	2,50	0,8	24,45
	2,65	0,8	25,95
	2,80	0,8	27,45
	3,00	0,8	29,45
	3,15	0,8	30,95
	3,35	0,8	32,95
	3,55	0,8	34,95
	3,75	1,0	36,64
	4,00	1,0	39,14
	4,25	1,0	41,64
	4,50	1,0	44,14
	4,75	1,0	46,64
	5,00	1,0	49,14
	5,30	1,0	52,14
	5,60	1,0	55,14
10,60	1,40	0,5	14,63
	1,60	0,5	16,75
	1,80	0,65	18,72
	2,00	0,65	20,84
	2,24	0,65	23,38
	2,50	0,8	25,95
	2,80	0,8	29,13
	3,15	0,8	32,84
	3,55	0,8	37,08
	4,00	1,0	41,54
	4,50	1,0	46,84
	5,00	1,0	52,14
	5,60	1,0	58,50
11,20	1,40	0,5	15,47
	1,50	0,5	16,59
	1,60	0,5	17,71

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
11,20	1,70	0,65	18,68
	1,80	0,65	19,80
	1,90	0,65	20,92
	2,00	0,65	22,04
	2,12	0,65	23,38
	2,24	0,65	24,73
	2,36	0,8	25,88
	2,50	0,8	27,45
	2,65	0,8	29,13
	2,80	0,8	30,81
	3,00	0,8	33,05
	3,15	0,8	34,73
	3,35	0,8	36,97
	3,55	0,8	39,21
	3,75	1,0	41,14
	4,00	1,0	43,94
	4,25	1,0	46,74
	4,50	1,0	49,54
	4,75	1,0	52,34
	5,00	1,0	55,14
	5,30	1,0	58,50
	5,60	1,0	61,86
11,80	1,60	0,5	18,67
	1,80	0,65	20,88
	2,00	0,65	23,24
	2,24	0,65	26,07
	2,50	0,8	28,95
	2,80	0,8	32,49
	3,15	0,8	36,62
	3,55	0,8	41,34
	4,00	1,0	46,34
	4,50	1,0	52,24
	5,00	1,0	58,14
	5,60	1,0	65,22
12,50	1,60	0,5	19,79
	1,70	0,65	20,89
	1,80	0,65	22,14
	1,90	0,65	23,39
	2,00	0,65	24,64
	2,12	0,65	26,14
	2,24	0,65	27,64
	2,36	0,8	28,95
	2,50	0,8	30,70
	2,65	0,8	32,58
	2,80	0,8	34,45
	3,00	0,8	36,95
	3,15	0,8	38,83
	3,35	0,8	41,33
	3,55	0,8	43,83
	3,75	1,0	46,02
	4,00	1,0	49,14
	4,25	1,0	52,27

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
12,50	4,50	1,0	55,39
	4,75	1,0	58,52
	5,00	1,0	61,64
	5,30	1,0	65,39
	5,60	1,0	69,14
13,20	1,80	0,65	23,40
	2,00	0,65	26,04
	2,24	0,65	29,21
	2,50	0,8	32,45
	2,80	0,8	36,41
	3,15	0,8	41,03
	3,55	0,8	46,31
	4,00	1,0	51,94
	4,50	1,0	58,54
	5,00	1,0	65,14
	5,60	1,0	73,06
14,00	1,80	0,65	24,84
	1,90	0,65	26,24
	2,00	0,65	27,64
	2,12	0,65	29,32
	2,24	0,65	31,00
	2,36	0,8	32,49
	2,50	0,8	34,45
	2,65	0,8	36,55
	2,80	0,8	38,65
	3,00	0,8	41,45
	3,15	0,8	43,55
	3,35	0,8	46,35
	3,55	0,8	49,15
	3,75	1,0	51,64
	4,00	1,0	55,14
	4,25	1,0	58,64
	4,50	1,0	62,14
	4,75	1,0	65,64
	5,00	1,0	69,14
	5,30	1,0	73,34
	5,60	1,0	77,54
15,00	2,00	0,65	29,64
	2,24	0,65	33,24
	2,50	0,8	36,95
	2,80	0,8	41,45
	3,15	0,8	46,70
	3,55	0,8	52,70
	4,00	1,0	59,14
	4,50	1,0	66,64
	5,00	1,0	74,14
	5,60	1,0	83,14
16,00	2,00	0,65	31,64
	2,12	0,65	33,56
	2,24	0,65	35,48

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
16,00	2,36	0,8	37,21
	2,50	0,8	39,45
	2,65	0,8	41,85
	2,80	0,8	44,25
	3,00	0,8	47,45
	3,15	0,8	49,85
	3,35	0,8	53,05
	3,55	0,8	56,25
	3,75	1,0	59,14
	4,00	1,0	63,14
	4,25	1,0	67,14
	4,50	1,0	71,14
	4,75	1,0	75,14
	5,00	1,0	79,14
	5,30	1,0	83,94
	5,60	1,0	88,74
17,00	2,24	0,8	37,72
	2,50	0,8	41,95
	2,80	0,8	47,05
	3,15	0,8	53,00
	3,55	0,8	59,80
	4,00	1,0	67,14
	4,50	1,0	75,64
	5,00	1,0	84,14
	5,60	1,0	94,34
	6,30	1,25	105,8
	7,10	1,25	119,4
	8,00	1,25	134,7
	9,00	1,25	151,7
	10,0	1,25	168,7
18,00	2,36	0,8	41,93
	2,50	0,8	44,45
	2,65	0,8	47,15
	2,80	0,8	49,85
	3,00	0,8	53,45
	3,15	0,8	56,15
	3,35	0,8	59,75
	3,55	0,8	63,35
	3,75	1,0	66,64
	4,00	1,0	71,14
	4,25	1,0	75,64
	4,50	1,0	80,14
	4,75	1,0	84,64
	5,00	1,0	89,14
	5,30	1,0	94,54
	5,60	1,0	99,94
	6,00	1,25	106,7
	6,30	1,25	112,1
	6,70	1,25	119,3
	7,10	1,25	126,5
	7,50	1,25	133,7
	8,00	1,25	142,7
	8,50	1,25	151,7
	9,00	1,25	160,7
	9,50	1,25	169,7
	10,0	1,25	178,7

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
19,00	2,50	0,8	46,95
	2,80	0,8	52,65
	3,15	0,8	59,30
	3,55	0,8	66,90
	4,00	1,0	75,14
	4,50	1,0	84,64
	5,00	1,0	94,14
	5,60	1,0	105,5
	6,30	1,25	118,4
	7,10	1,25	133,6
	8,00	1,25	150,7
	9,00	1,25	169,7
	10,0	1,25	188,7
20,00	2,50	0,8	49,45
	2,65	0,8	52,45
	2,80	0,8	55,45
	3,00	0,8	59,45
	3,15	0,8	62,45
	3,35	0,8	66,45
	3,55	0,8	70,45
	3,75	1,0	74,14
	4,00	1,0	79,14
	4,25	1,0	84,14
	4,50	1,0	89,14
	4,75	1,0	94,14
	5,00	1,0	99,14
	5,30	1,0	105,1
	5,60	1,0	111,1
	6,00	1,25	118,7
	6,30	1,25	124,7
	6,70	1,25	132,7
	7,10	1,25	140,7
	7,50	1,25	148,7
	8,00	1,25	158,7
	8,50	1,25	168,7
	9,00	1,25	178,7
	9,50	1,25	188,7
	10,0	1,25	198,7
21,20	2,80	0,8	58,81
	3,15	0,8	66,23
	3,55	0,8	74,71
	4,00	1,0	83,94
	4,50	1,0	94,54
	5,00	1,0	105,1
	5,60	1,0	117,9
	6,30	1,25	132,2
	7,10	1,25	149,2
	8,00	1,25	168,3
	9,00	1,25	189,5
	10,0	1,25	210,7
22,40	2,80	0,8	62,17
	3,00	0,8	66,65
	3,15	0,8	70,01
	3,35	0,8	74,49
	3,55	0,8	78,97

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
22,40	3,75	1,0	83,14
	4,00	1,0	88,74
	4,25	1,0	94,34
	4,50	1,0	99,94
	4,75	1,0	105,5
	5,00	1,0	111,1
	5,30	1,0	117,9
	5,60	1,0	124,6
	6,00	1,25	133,1
	6,30	1,25	139,8
	6,70	1,25	148,7
	7,10	1,25	157,7
	7,50	1,25	166,7
	8,00	1,25	177,9
	8,50	1,25	189,1
	9,00	1,25	200,3
	9,50	1,25	211,5
	10,0	1,25	222,7
23,60	3,15	0,8	73,79
	3,55	0,8	83,23
	4,00	1,0	93,54
	4,50	1,0	105,3
	5,00	1,0	117,1
	5,60	1,0	131,3
	6,30	1,25	147,3
	7,10	1,25	166,2
	8,00	1,25	187,5
	9,00	1,25	211,1
	10,0	1,25	234,7
25,00	3,15	0,8	78,20
	3,35	0,8	83,20
	3,55	0,8	88,20
	3,75	1,0	92,89
	4,00	1,0	99,14
	4,25	1,0	105,4
	4,50	1,0	111,6
	4,75	1,0	117,9
	5,00	1,0	124,1
	5,30	1,0	131,6
	5,60	1,0	139,1
	6,00	1,25	148,7
	6,30	1,25	156,2
	6,70	1,25	166,2
	7,10	1,25	176,2
	7,50	1,25	186,2
	8,00	1,25	198,7
	8,50	1,25	211,2
	9,00	1,25	223,7
	9,50	1,25	236,2
	10,0	1,25	248,7
26,50	3,55	0,8	93,53
	4,00	1,0	105,1
	4,50	1,0	118,4
	5,00	1,0	131,6
	5,60	1,0	147,5

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
26,50	6,30	1,25	165,6
	7,10	1,25	186,8
	8,00	1,25	210,7
	9,00	1,25	237,2
	10,0	1,25	263,7
28,00	3,55	0,8	98,85
	3,75	1,0	104,1
	4,00	1,0	111,1
	4,25	1,0	118,1
	4,50	1,0	125,1
	4,75	1,0	132,1
	5,00	1,0	139,1
	5,30	1,0	147,5
	5,60	1,0	155,9
	6,00	1,25	166,7
	6,30	1,25	175,1
	6,70	1,25	186,3
	7,10	1,25	197,5
	7,50	1,25	208,7
	8,00	1,25	222,7
	8,50	1,25	236,7
	9,00	1,25	250,7
	9,50	1,25	264,7
	10,0	1,25	278,7

Nominal width	Nominal thickness	Corner radius	Nominal cross-section area
mm	mm	mm	mm^2
30,00	4,00	1,0	119,1
	4,50	1,0	134,1
	5,00	1,0	149,1
	5,60	1,0	167,1
	6,30	1,25	187,7
	7,10	1,25	211,7
	8,00	1,25	238,7
	9,00	1,25	268,7
	10,0	1,25	298,7
31,50	4,00	1,0	125,1
	4,25	1,0	133,0
	4,50	1,0	140,9
	4,75	1,0	148,8
	5,00	1,0	156,6
	5,30	1,0	166,1
	5,60	1,0	175,5
	6,00	1,25	187,7
	6,30	1,25	197,1
	6,70	1,25	209,7
	7,10	1,25	222,3
	7,50	1,25	234,9
	8,00	1,25	250,7
	8,50	1,25	266,4
	9,00	1,25	282,2
	9,50	1,25	297,9
	10,0	1,25	313,7

Bibliography

IEC 60264 (all parts), *Packaging of winding wires*

IEC 60317 (all parts), *Specifications for particular types of winding wires*

(*Continued from second cover*)

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