

International Standard



3492

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Wrought copper and copper alloys — Drawn round wire — Tolerances on diameter

Cuivre et alliages de cuivre corroyés — Fils étirés ou tréfilés de section circulaire — Tolérances sur diamètre

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Descriptors : copper, copper alloys, wire, dimensions, diameters, dimensional tolerances.

Foreword

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Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3492 was developed by Technical Committee ISO/TC 26, *Copper and copper alloys*, and was circulated to the member bodies in November 1981.

It has been approved by the member bodies of the following countries:

Australia	France	Romania
Austria	Germany, F.R.	South Africa, Rep. of
Belgium	Hungary	Sweden
Brazil	India	Switzerland
Bulgaria	Japan	Turkey
Canada	Korea, Dem. P. Rep. of	United Kingdom
China	Norway	USA
Egypt, Arab Rep. of	Poland	USSR

NO member body expressed disapproval of the document.

Wrought copper and copper alloys — Drawn round wire — Tolerances on diameter

1 Scope and field of application

This International Standard specifies the dimensions and tolerances of drawn round wire made from wrought copper or copper alloys.

It does not apply to round wire for electrical purposes, requirements for which are specified elsewhere (see, for example, IEC Publication 317-3).

2 References

ISO 1638, *Wrought copper and copper alloys — Solid products supplied in coils or on reels — Mechanical properties*.¹⁾

IEC Publication 317-3, *Specifications for particular types of winding wires — Part 3 : Enamelled round copper wires with a temperature index of 155*.

3 Definition

For the purpose of this International Standard, the following definition applies :

circularity : The difference between the maximum and minimum diameters measured on one cross-section.

4 Dimensions and tolerances

4.1 Wire for free-cutting purposes

Table 1 — Tolerances on diameter;
material group I

Values in millimetres

Diameter		Tolerances *
>	≤	
≥ 2	3	0 −0,04
3	6	0 −0,05
6	10	0 −0,06
10	12	0 −0,07

* Tolerances ISO h10 rounded off to two decimal places.

1) Under revision.

4.2 Wire for general purposes

Table 2 — Tolerances on diameter;
material groups II and III

Values in millimetres

Diameter		Tolerances	
>	<	Material Group II	Material Group III
> 0,5 0,6	0,6 1,0	± 0,02	± 0,03
1,0 1,6	1,6 2,5	± 0,03	± 0,04 ± 0,05
2,5 4 6 10	4 6 10 12	± 0,04 ± 0,05 ± 0,06 ± 0,07	± 0,06 ± 0,07 ± 0,09 ± 0,11

4.3 Circularity

The circularity tolerance shall not exceed half the tolerance on diameter specified in tables 1 and 2.

5 Materials

Materials and mechanical properties are specified in ISO 1638. The materials are divided into Material groups I, II and III (see table 3).

Table 3 — Materials

Material group		Type	Designation
for free machining	I	Coppers (Cu min. 97,5 %)	Cu S (P 0,01) Cu S (P 0,03) CuTe CuTe (P)
		Copper-zinc-lead alloys	CuZn34Pb2 CuZn37Pb1 CuZn37Pb2 CuZn36Pb3 CuZn40Pb CuZn39Pb1 CuZn38Pb2 CuZn40Pb2 CuZn39Pb3 CuZn38Pb4
for general purposes	II	Coppers (Cu min. 99,85 %)	Cu-ETP Cu-FRHC Cu-FRTP Cu-OF Cu-HCP Cu-DLP Cu-DHP
		Coppers (Cu min. 97,5 %)	CuAg 0,05 CuAg 0,1 CuAg 0,05 (OF) CuAg 0,1 (OF) CuAg 0,05 (P) CuAg 0,1 (P) CuCd1
		Copper-zinc alloys	CuZn5 CuZn10 CuZn20 CuZn30 CuZn35 CuZn37
		Copper-tin alloys	CuSn2 CuSn4 CuSn5 CuSn6 CuSn8
		Copper-nickel alloys	CuNi9Sn2
		Copper-nickel-zinc alloys	CuNi18Zn20 CuNi15Zn21 CuNi12Zn24
	III	Special copper alloys	CuBe1,7 CuCo2Be CuNi2Be CuNi1Si CuNi2Si

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