

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 6958 was prepared by Technical Committee ISO/TC 26, *Copper and copper alloys*.

ITeH STANDARD PREVIEW
(standards.iteh.ai)

[ISO 6958:1984](https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984)

<https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984>

Wrought copper and copper alloys — Drawn rectangular bars — Dimension and form tolerances

1 Scope and field of application

This International Standard specifies the dimensional tolerances and form tolerances of wrought copper and copper alloy drawn rectangular bars with thickness in the range from 2 up to and including 40 mm and widths in the range from 3 up to and including 120 mm.

2 Reference

ISO 1637, *Wrought copper and copper alloys — Solid products supplied in straight lengths — Mechanical properties*.*

3 Dimensions and tolerances

3.1 Thickness and widths (see tables 1 and 2)

Table 1 — Tolerances for material group I

ISO 6958:1984

Values in millimetres

| Width $b^{1)}$ | | | Tolerance on thickness for thickness a | | | | | |
|----------------|-----|------------|--|------------|-------------|--------------|--------------|--------------|
| > | < | Tolerance | ≥ 2 < 3 | > 3 < 6 | > 6 < 10 | > 10 < 18 | > 18 < 30 | > 30 < 40 |
| > 3 | 10 | $\pm 0,08$ | $\pm 0,05$ | $\pm 0,07$ | $\pm 0,08$ | — | — | — |
| 10 | 18 | $\pm 0,10$ | $\pm 0,05$ | $\pm 0,07$ | $\pm 0,09$ | $\pm 0,10$ | — | — |
| 18 | 30 | $\pm 0,15$ | $\pm 0,05$ | $\pm 0,07$ | $\pm 0,09$ | $\pm 0,10$ | $\pm 0,15$ | — |
| 30 | 50 | $\pm 0,20$ | $\pm 0,07$ | $\pm 0,09$ | $\pm 0,10$ | $\pm 0,12$ | $\pm 0,15$ | $\pm 0,20$ |
| 50 | 80 | $\pm 0,25$ | $\pm 0,09$ | $\pm 0,11$ | $\pm 0,12$ | $\pm 0,15$ | $\pm 0,20$ | $\pm 0,25$ |
| 80 | 120 | $\pm 0,30$ | — | $\pm 0,12$ | $\pm 0,15$ | $\pm 0,18$ | $\pm 0,23$ | $\pm 0,30$ |

1) Where the ratio b/a is greater than 20 : 1, tolerances shall be agreed.

Table 2 — Tolerances for material group II

Values in millimetres

| Width $b^{1)}$ | | | Tolerance on thickness for thickness a | | | | | |
|----------------|-----|------------|--|------------|-------------|--------------|--------------|--------------|
| > | < | Tolerance | > 2 < 3 | > 3 < 6 | > 6 < 10 | > 10 < 18 | > 18 < 30 | > 30 < 40 |
| > 3 | 10 | $\pm 0,12$ | $\pm 0,07$ | $\pm 0,10$ | $\pm 0,12$ | — | — | — |
| 10 | 18 | $\pm 0,15$ | $\pm 0,07$ | $\pm 0,10$ | $\pm 0,12$ | $\pm 0,15$ | — | — |
| 18 | 30 | $\pm 0,22$ | $\pm 0,07$ | $\pm 0,10$ | $\pm 0,12$ | $\pm 0,15$ | $\pm 0,22$ | — |
| 30 | 50 | $\pm 0,30$ | $\pm 0,10$ | $\pm 0,13$ | $\pm 0,15$ | $\pm 0,18$ | $\pm 0,22$ | $\pm 0,30$ |
| 50 | 80 | $\pm 0,37$ | $\pm 0,13$ | $\pm 0,16$ | $\pm 0,18$ | $\pm 0,22$ | $\pm 0,30$ | $\pm 0,37$ |
| 80 | 120 | $\pm 0,45$ | — | $\pm 0,18$ | $\pm 0,22$ | $\pm 0,27$ | $\pm 0,35$ | $\pm 0,45$ |

1) Where the ratio b/a is greater than 20 : 1, tolerances shall be agreed.

* Under revision.

3.2 Corner radii

Rectangular bars may have rounded corners with corner radii according to table 3.

Table 3 – Corner radii

Values in millimetres

| Width | | Maximum corner radius |
|-------|----|-----------------------|
| > | ≤ | |
| ≥ 3 | 6 | 0,5 |
| 6 | 10 | 0,8 |
| 10 | 18 | 1,2 |
| 18 | 30 | 1,8 |
| 30 | 50 | 2,8 |
| 50 | 80 | 4,0 |

3.3 Twist tolerance

Rectangular bars may have a twist, but not more than the tolerances according to table 4.

Table 4 – Twist tolerances

Values in millimetres

| Width | Per metre | Tolerance per total length | | |
|--------------|-----------|----------------------------|--------------------|--------------|
| | | ≤ 3 000 | > 3 000 ≤ 5 000 | > 5 000 |
| ≥ 18 < 80 | 3° | 6° | 8° | to be agreed |
| > 80 | 2° | 4° | 6° | to be agreed |

NOTE – Minimum thickness : 6 mm

iTeh STANDARD PREVIEW
(standards.iteh.ai)

3.4 Straightness tolerance

Table 5 – Straightness tolerance

Values in millimetres

The straightness tolerances listed in table 5 apply to bars of widths equal to or greater than 10 mm and all tempers except O and M-tempers.

| Nominal length l_{nom} | Maximum curvature (Depth of arc) | |
|-----------------------------|-------------------------------------|----------------------------------|
| | > 1 000 2 000 3 000 | < 2 000 3 000 — |
| > 1 000 | 2 000 | 2,0 in any length $l_m = 1 000$ |
| 2 000 | 3 000 | 5,5 in any length $l_m = 2 000$ |
| 3 000 | — | 12,0 in any length $l_m = 3 000$ |
| Local kinks | | 0,6 in any length $l_m = 300$ |

The straightness is measured by determining the curvate c against a straightedge, having the appropriate length l_m , when the bar is lying flat on a base plate, (see the figure).

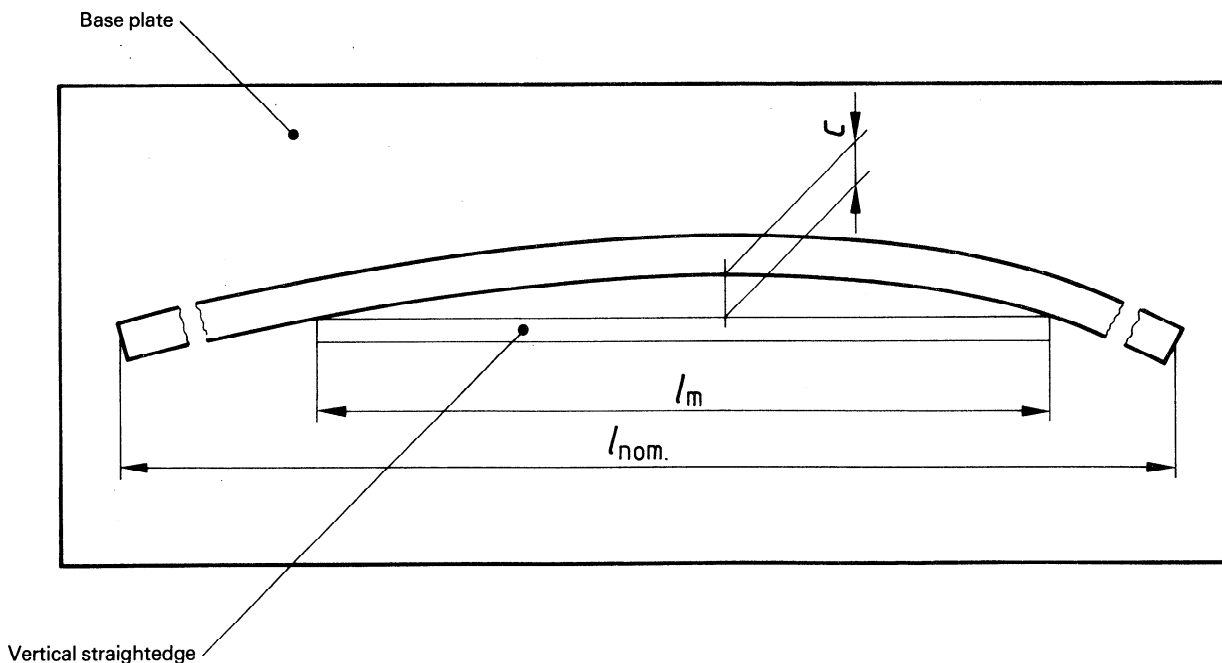


Figure – Measurement of straightness

3.5 Length tolerance

3.5.1 Length as manufactured

The length as manufactured is delivered in nominal length and tolerances according to table 6; permissible underlengths are listed in table 7.

Table 6 – Length as manufactured

Values in millimetres

| Width | | Nominal length | Tolerance |
|-------|-----|----------------|-----------|
| > | < | | |
| > 3 | 18 | 3 000 to 4 000 | ± 50 |
| 18 | 40 | | ± 100 |
| 40 | 50 | 2 000 to 4 000 | ± 200 |
| 50 | 60 | 2 000 to 3 000 | |
| 60 | 120 | 1 000 to 2 000 | |

Table 7 – Permissible underlength

| Width mm | | Shortest permissible length | Permissible mass of underlengths |
|-------------|-----|--------------------------------|-------------------------------------|
| > | < | % of nominal length | % of lot mass |
| > 3 | 18 | 75 | 20 |
| 18 | 50 | 50 | 40 |
| 50 | 120 | | 50 |

[ISO 6958:1984](https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984)

3.5.2 Fixed length

<https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984>

The length of fixed lengths shall be agreed upon between the purchaser and supplier. Fixed lengths shall have a tolerance of $+^{10}_0$ mm.

4 Material

Drawn rectangular bars according to this International Standard are currently available in commercial quantities in wrought copper and copper alloys listed in table 8.

The mechanical properties of the materials listed are specified in ISO 1637.

The materials are divided into material groups I and II as classified in table 8.

Table 8 — Materials

| Material group | Type | Designation |
|----------------|------------------------------|--|
| I | Coppers (Cu min. 99,85 %) | Cu-ETP Cu-FRHC Cu-FRTP Cu-OF Cu-HCP Cu-DLP Cu-DHP |
| | Coppers (Cu min. 97,5 %) | CuPb 1 CuS (P0,01) CuS (P0,03) CuTe CuTe (P) |
| | Copper-zinc-lead alloys | CuZn36Pb3 CuZn38Pb2 CuZn38Pb4 CuZn39Pb1 CuZn39Pb3 CuZn40Pb CuZn40Pb2 |
| II | Coppers (Cu min. 97,5 %) | CuCr1 CuCr1Zr CuSi1 |
| | Special copper-zinc alloys | CuZn38Sn1 CuZn37Sn1Pb1 |

ITeH STANDARD PREVIEW
(standards.iteh.ai)

ISO 6958:1984

<https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984>

iTeh STANDARD PREVIEW
This page intentionally left blank
(standards.iteh.ai)

[ISO 6958:1984](#)

<https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984>

iTeh STANDARD PREVIEW
This page intentionally left blank
(standards.iteh.ai)

[ISO 6958:1984](#)

<https://standards.iteh.ai/catalog/standards/sist/45c666e7-6c96-49f6-9fb4-ba17d9e5a4ee/iso-6958-1984>