
INTERNATIONAL STANDARD



428

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Wrought copper-aluminium alloys – Chemical composition and forms of wrought products

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 428 was drawn up by Technical Committee ISO/TC 26, *Copper and copper alloys*, and circulated to the Member Bodies in November 1971.

It has been approved by the Member Bodies of the following countries :

Austria	Hungary	South Africa, Rep. of
Belgium	India	Spain
Canada	Ireland	Sweden
Czechoslovakia	Italy	Switzerland
Denmark	Japan	Thailand
Egypt, Arab Rep. of	Netherlands	Turkey
Finland	Norway	United Kingdom
France	Portugal	U.S.A.
Germany	Romania	U.S.S.R.

The Member Body of the following country expressed disapproval of the document on technical grounds :

Chile

This International Standard cancels and replaces ISO Recommendation R 428-1965.

Wrought copper-aluminium alloys – Chemical composition and forms of wrought products

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the chemical composition and lists the forms of wrought products of the following wrought copper alloys :

- copper-aluminium alloys (aluminium bronzes),
- special copper-aluminium alloys (special aluminium bronzes),

currently available in commercial quantities.

2 CHEMICAL COMPOSITION

2.1 The chemical compositions given in Tables 1 and 2 show only the main constituent elements and usual impurities. It is the responsibility of the supplier to ensure that any element not specifically limited by this International Standard is not present in an amount such as is generally accepted as having an adverse effect on the product. If the purchaser's requirements necessitate limits for any element not specified, these should be agreed upon between supplier and purchaser.

The designations shown are in accordance with the principles laid down in ISO/R 1190, *Copper and copper alloys – Code of designation*.

2.2 The present standardization of aluminium bronzes includes the alloys most usually manufactured, but it should be realised that there are many differing compositions for the same end-use. In particular, attention is called to the possible substitution of manganese for iron, either wholly or in part. The introduction of such changes can have an appreciable effect on the mechanical or other properties of these alloys and, therefore, in cases where

deviations from the given compositions are required, the manufacturer should be consulted.

3 FORMS OF WROUGHT PRODUCTS

In Table 3,

- X indicates the main forms manufactured (see section 4).
- (X) indicates forms manufactured in smaller quantities, for example in certain countries only or for special purposes.

If no symbol is given, the form is not considered of importance for that type of copper alloy, but it does not necessarily indicate that such a product cannot be manufactured.

4 MECHANICAL PROPERTIES

Mechanical properties for all forms of wrought products for which the symbol X is given in Table 3, are defined in the following International Standards¹⁾ :

- ISO 1634, for rolled flat products (plate, sheet, strip);
- ISO 1635, for tubes for general purposes;
- ISO 1636, for tubes for condensers and heat exchangers;
- ISO 1637, for solid products in straight length (rod, bar);
- ISO 1638, for drawn solid products in coils or on reels (wire);
- ISO 1639, for extruded sections;
- ISO 1640, for forgings.

1) At present at the stage of draft.