

---

# International Standard



# 197/1

---

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

---

## **Copper and copper alloys — Terms and definitions — Part 1: Materials**

*Cuivre et alliages de cuivre — Termes et définitions — Partie 1: Matériaux*

**First edition — 1983-12-01**

---

**UDC 669.3 : 001.4**

**Ref. No. ISO 197/1-1983 (E)**

**Descriptors :** copper, copper alloys, vocabulary, definitions.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (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 authorized 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 197/1 was developed by Technical Committee ISO/TC 26, *Copper and copper alloys*, and was circulated to the member bodies in July 1982.

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

Austria	Iran	Romania
Belgium	Italy	South Africa, Rep. of
Brazil	Japan	Spain
Canada	Korea, Dem. P. Rep. of	Sweden
China	Korea, Rep. of	Switzerland
Egypt, Arab Rep. of	Mexico	Turkey
Finland	Netherlands	United Kingdom
France	Norway	USA
Germany, F.R.	Poland	USSR

No member body expressed disapproval of the document.

This International Standard cancels and replaces ISO Technical Report ISO/TR 197/1-1976.

# Copper and copper alloys — Terms and definitions — Part 1: Materials

## 0 Introduction

Terms and definitions listed in this part of ISO 197 have been approved in principle by the Customs Cooperation Council (CCC) to form the basis of the Harmonized Commodity Description and Coding System (Harmonized System) for the revision of chapter 74 "Copper" of the CCC-Nomenclature.

## 1 Scope and field of application

This part of ISO 197 gives terms for and definitions of materials in the field of copper and copper alloys.

## 2 General terms and definitions

**2.1 alloy:** A metallic substance consisting of a mixture of the basic metallic elements (the element predominating by mass) and other elements such as alloying elements and impurities.

**2.2 alloying element:** Metallic or non-metallic elements added to or retained by a basic metal for the purpose of giving that metal certain special properties.

**2.3 impurity:** Metallic or non-metallic elements present but which are not intentionally added to or retained by a metal.

**2.4 wrought alloy:** An alloy primarily intended for the production of wrought products by hot and/or cold plastic deformation.

**2.5 casting alloy:** An alloy primarily intended for the production of castings.

**2.6 master alloy:** An alloy intended only for addition to a melt to adjust composition or to control impurities.

**2.7 heat-treatable alloy:** An alloy capable of being strengthened by suitable thermal treatment.

**2.8 non-heat-treatable alloy:** An alloy strengthened by cold working only and incapable of being substantially strengthened by thermal treatment.

## 3 Classification of copper and copper alloys

Copper and copper alloys are classified as follows: (see the annex for further details).

### 3.1 Unrefined copper

(For specific terms, see 4.1.)

### 3.2 Refined copper

(For specific terms, see 4.2.)

a) Metal with a minimum content of 99,85 % (*m/m*) of copper or

b) Metal with a minimum content of 97,5 % (*m/m*) of copper, provided that the content by mass of any other element does not exceed the limits specified in the following table:

Table — Other elements

Element	Limiting content % ( <i>m/m</i> )
Ag Silver	0,25
As Arsenic	0,5
Cd Cadmium	1,3
Cr Chromium	1,4
Mg Magnesium	0,8
Pb Lead	1,5
S Sulfur	0,7
Sn Tin	0,8
Te Tellurium	0,8
Zn Zinc	1,0
Zr Zirconium	0,3
Other elements <sup>1)</sup> , each	0,3

1) Other elements are, for example Al, Be, Co, Fe, Mn, Ni, Si.

### 3.3 Copper alloys

Copper alloys are metallic substances other than unrefined copper in which copper predominates by mass over each of the other elements provided that: