International Standard 197/3

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

Copper and copper alloys — Terms and definitions — Part 3: Wrought products

Cuivre et alliages de cuivre — Termes et définitions — Partie 3: Produits corroyés

First edition — 1983-12-15

UDC 669.3 : 001.4 **Ref. No. ISO 197/3-1983 (E)**

Descriptors : copper, copper alloys, wrought products, vocabulary, definitions.

Price based on 6 pages

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 197/3 was developed by Technical Committee ISO/TC 26, *Copper and copper alloys*, and was circulated to the member bodies in August 1982.

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

Australia	France	South Africa, Rep. of
Austria	Germany, F.R.	Spain
Belgium	Hungary	Sweden
Brazil	Iran	Switzerland
Canada	Japan	Turkey
Chile	Korea, Dem. P. Rep. of	United Kingdom
China	Netherlands	USA
Czechoslovakia	Poland	USSR
Egypt, Arab Rep. of	Romania	Venezuela

No member body expressed disapproval of the document.

This International Standard cancels and replaces ISO Technical Report ISO/TR 197/3-1976, of which it constitutes a technical revision.

Printed in Switzerland

Copper and copper alloys — Terms and definitions — Part 3: Wrought products

0 Introduction

Terms and definitions listed in this part of ISO 197 have been approved in principle by the Customs Co-operation 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 wrought products of copper and copper alloys.

2 Terms and definitions

2.1 wrought: A general term for products obtained by hot and/or cold plastic deformation processes such as extruding, forging, hot rolling, cold rolling or drawing, either exclusively or in combination.

Examples of wrought products are rod, bar, wire, tube, profile, sheet, strip, forging.

NOTE — For classification principles of wrought products, see the annex.

2.2 rod/bar : A solid wrought product of uniform cross-section along its whole length, supplied in straight lengths. The cross-sections are in the shape of circles, ovals, squares, rectangles, equilateral triangles or regular polygons (see figure 1). Products with a square, rectangular, triangular or polygonal cross-section may have corners rounded along their whole length.

NOTE

For rectangular bars

— the thickness exceeds one-tenth of the width.

— the term "rectangular bar" includes "flattened circles" and "modified rectangles", of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel.

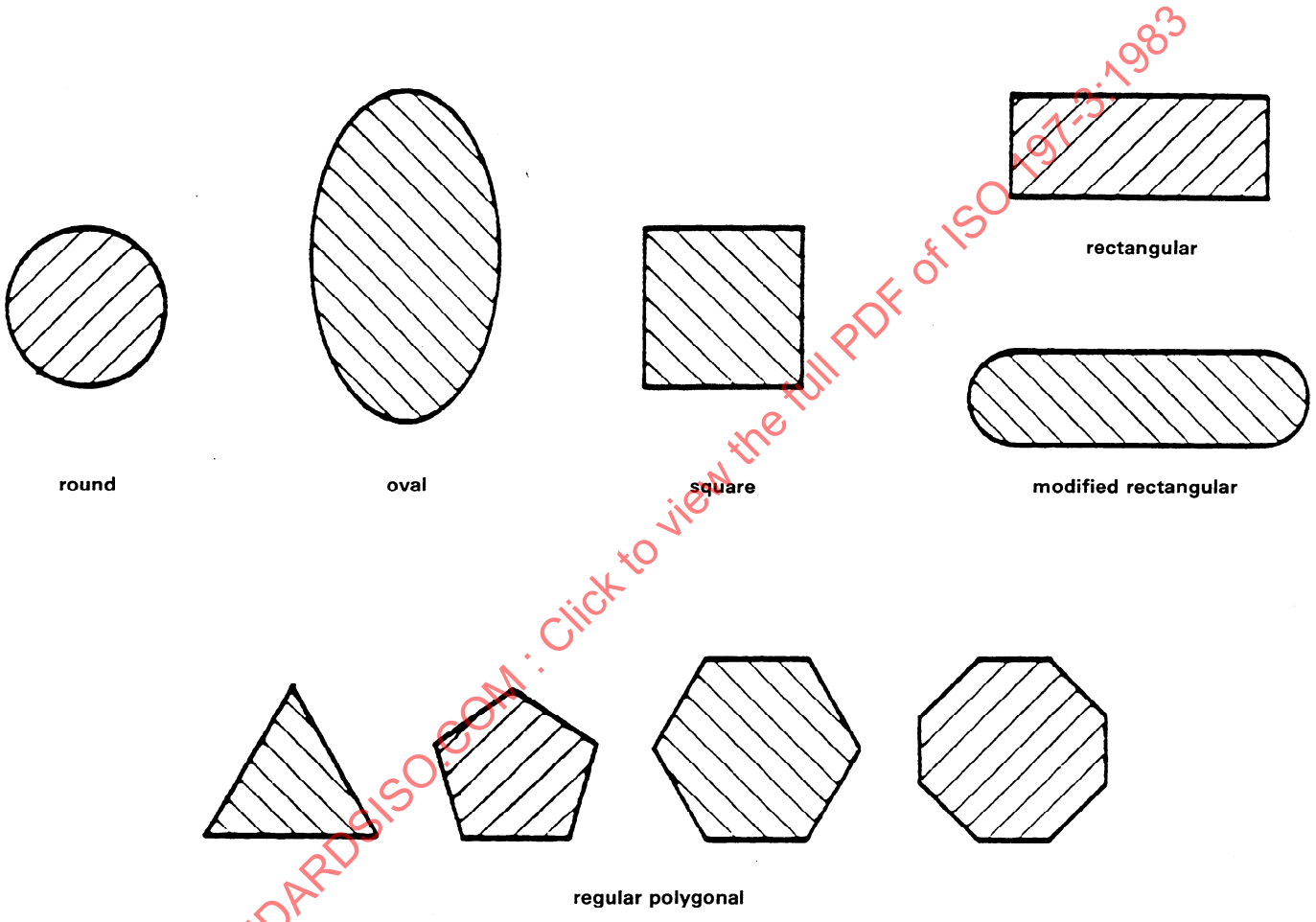

Figure 1 — Rod/bar and wire cross-sections

2.3 wire : A solid wrought product of uniform cross-section along its whole length, supplied in coiled form. The cross-sections are in the shape of circles, ovals, squares, rectangles, equilateral triangles or regular polygons (see figure 1). Products with a square, rectangular, triangular, or polygonal cross-section may have corners rounded along their whole length.

NOTE

For rectangular wires

— the thickness exceeds one-tenth of the width.

— the term "rectangular wire" includes "flattened circles" and "modified rectangles", of which two opposite sides are convex arcs, the other two sides being straight, of equal length and parallel.

2.4 drawing stock (wire rod) : An intermediate solid wrought product of uniform cross-section along its whole length supplied in coils.

The cross-sections are approximately round, triangular or regular polygonal with a maximum cross-section dimension usually exceeding 6 mm, see figure 2.

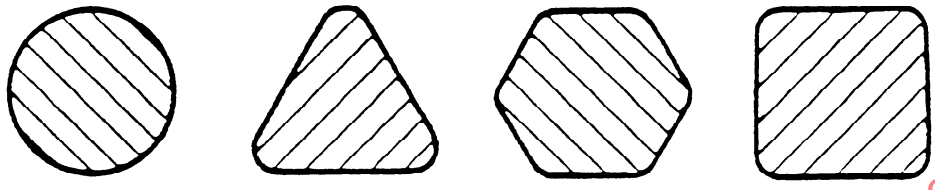

Figure 2 — Drawing stock cross-sections

2.5 tube : A hollow wrought product of uniform cross-section with only one enclosed void along its whole length, and with a uniform wall thickness, supplied in straight lengths or in coiled form.

The cross-sections are in the shape of circles, ovals, squares, rectangles, equilateral triangles or regular polygons (see figure 3). Hollow products with a square, rectangular, equilateral triangular or regular polygonal cross-section, which may have corners rounded along their whole length, are also to be considered as tubes, provided that the inner and outer cross-sections are concentric and have the same form and orientation.

NOTES

1 Tubes can also be formed by piercing and by forming and joining sheet or strip.

2 Bent, threaded, drilled, waisted, expanded and cone-shaped hollow products in this general form when derived from tubes as defined above are classified as tubes.

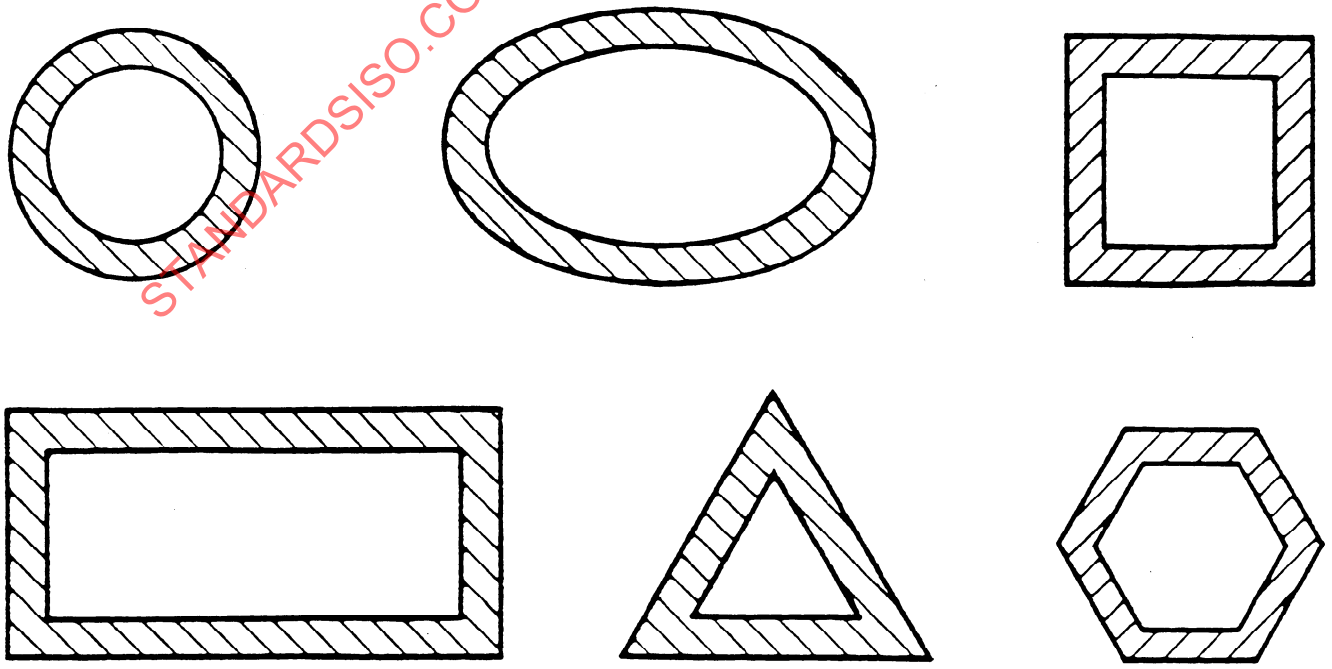

Figure 3 — Tube cross-sections

2.6 profile : A wrought product of uniform cross-section along its whole length, with a cross-section other than rod, bar, wire, tube, sheet or strip, supplied in straight lengths or in coiled form.

According to the form of its cross-section, it is called

a) Hollow profile

The cross-section encloses

either one enclosed void, provided that the cross-section is other than tube,

or more than one enclosed void
(Examples for cross-sections are given in figure 4.)

b) Solid profile

The cross-section does not include any enclosed void.

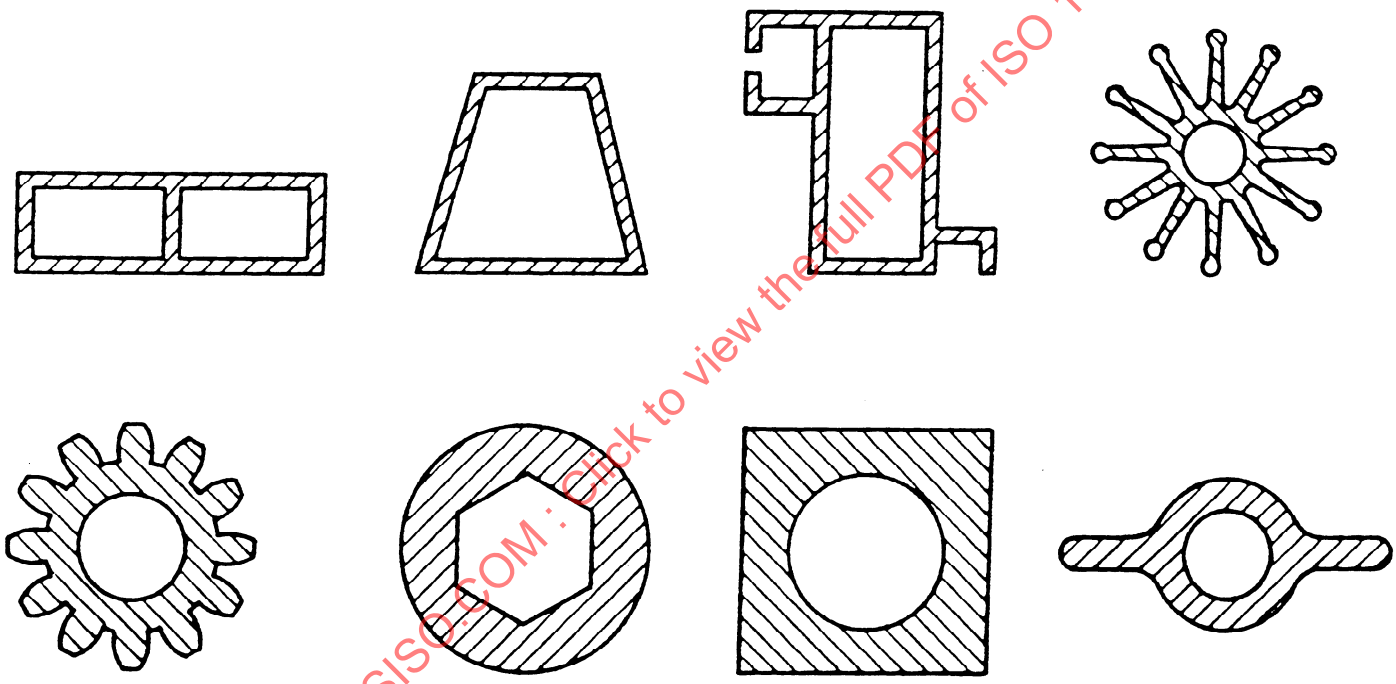

Figure 4 — Hollow profile cross-sections

2.7 sheet : A flat rolled product of rectangular cross-section with uniform thickness at least 0,10 mm, supplied in straight lengths (i.e. flat) usually with sheared or sawn edges. The thickness does not exceed one-tenth of the width.

NOTES

1 Corrugated, embossed, coated, edge-conditioned and perforated products in this general form when derived from sheet as defined above are classified as sheet.

2 In some countries, "sheet" of a thickness greater than 6 mm is called "plate".

2.8 strip : A flat rolled product of rectangular cross-section with uniform thickness of at least 0,10 mm, supplied in coils usually with slit edges. The thickness does not exceed one-tenth of the width.

NOTES

1 Corrugated, embossed, coated, edge-conditioned and perforated products in this general form when derived from strip as defined above are classified as strip.

2 In some countries, "strip" is called "coiled sheet".