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Specification for

# Rolled copper and copper alloys : sheet, strip and foil

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Spécification du cuivre et des alliages de cuivre laminés : tôle, feuillard et feuille

Spezifikation für Walzkupfer- und Kupferlegierungen : Blech, Band und Folie

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## Foreword

This is the first revision of BS 2870 since it was prepared in metric terms. It is one of the series on copper and copper alloys in wrought forms, the others being:

- BS 2871 Copper and copper alloy tubes (three Parts)
- BS 2872 Copper and copper alloys. Forging stock and forgings
- BS 2873 Copper and copper alloys. Wire
- BS 2874 Copper and copper alloys. Rods and sections (other than forging stock)
- BS 2875 Copper and copper alloys. Plate

Only materials for general engineering purposes are included in this standard. When materials are required with specified electrical properties, reference should be made to BS 1432 or BS 4608 as appropriate.

Certain alloys, now thought to be in sufficient demand to warrant their inclusion, have been added; these are: aluminium bronze CA 104, nickel-silver NS 111 and the chromium-copper alloys CC 101 and CC 102.

Deletions have been made in those cases where the level of demand has diminished to the extent that inclusion

can no longer be justified. The materials affected are C 105, C 107, CN 101, CN 103, CN 106, CA 101, NS 108, NS 109 and CS 101. This standard does not include drawn strip, which is included in BS 2874. Other alloys, not included in this standard, but available in other product forms, are listed in appendix A.

The units used for tensile strength have been changed to N/mm<sup>2</sup> from hbar to be in accordance with current practice.

The references to ISO standards (published by the International Organization for Standardization) have also been updated and the alloys which comply with, or fall within the requirements of an ISO standard are indicated in the tables of composition and mechanical properties. The ISO temper designations are under revision and have not therefore been incorporated.

An appendix in the previous edition listed the cross-references to the individual standards retained during the transition from imperial to metric. These standards have now all been withdrawn and the appendix has therefore been deleted.

British Standard Specification for

# Rolled copper and copper alloys : sheet, strip and foil

## Section one. Introduction

### 1. Scope

Section two of this British Standard specifies requirements for rolled copper and copper alloy sheet, strip and foil for general purposes in thicknesses up to and including 10.0 mm.

Sections three to eight give special requirements for particular applications of certain materials included in the standard.

Where copper included in this standard is required with specified electrical properties, the appropriate reference should be made to BS 4608 and BS 1432.

### 2. References

The titles of the standards publications referred to in this standard are listed on the inside back cover.

### 3. Definitions

For the purposes of this British Standard, the following definitions apply.

**3.1 sheet.** Flat material of exact length, over 0.15 mm up to and including 10.0 mm thick and over 450 mm width.

**3.2 strip.** Material over 0.15 mm up to and including 10.0 mm thick, of any width, and generally not cut to length. Usually in coil, but may be flat or folded.

**3.3 foil.** A material of 0.15 mm thick and under, of any width, flat or in coil.

## Section two. General requirements

### 4. General

The sheet, strip and foil shall comply with the general requirements given in clauses 5 to 19 and in tables 8 to 16, and, if ordered for a particular application, with the appropriate requirements of one of the sections three to eight.

### 5. Information to be supplied by the purchaser

The purchaser shall state on his enquiry and order the following information:

- (a) the designation of the material required (selected from tables 8 to 16);
- (b) the condition of the material (selected from tables 8 to 16);

(c) in the case of materials C 104, C 106 and CZ 112, whether a hot rolled or cold rolled finish is to be supplied;

(d) whether mechanical tests are required, in the case of thin strip (e.g. material CB 101 less than 0.45 mm thick) any special requirements for the hardness test procedure;

(e) whether a supplier's certificate is required;

(f) whether it is the purchaser's intention to inspect the material at the supplier's works;

(g) for sheet material, whether guillotined or rotary sheared tolerances are required on width;

(h) for rotary sheared material, whether commercial or precision tolerances on width are required;

(i) when the strip is required for edgewise bending, the degree of bending and any special test requirements agreed with the manufacturer (see 10.3);

(j) when mechanical tests are specified for CB 101, the manner in which the samples are taken (see 11.3);

(k) for materials C 103 and C 106, whether the hydrogen embrittlement test is required;

(l) whether microscopic examination is required;

(m) when material of a controlled grain size is required (see clause 14);

(n) whether the requirements of any clause of sections three to eight of this standard (i.e. for particular applications) are specified.

### 6. Freedom from defects

The material shall be clean, smooth and free from harmful defects.

### 7. Chemical composition

The chemical composition shall comply with the requirements of tables 8 to 16.

### 8. Manufacture

For materials C 101, C 102, C 103, CZ 101, CZ 102, CZ 103, CZ 106, CZ 107, CZ 108, CZ 110, CZ 118, CZ 119, CZ 120, CZ 125, CN 102, CN 104, CN 105, CN 107, PB 101, PB 102, PB 103, NS 103, NS 104, NS 105, NS 106, NS 107, NS 111 and CB 101, the final rolling shall be performed cold.

For materials CZ 123 and CA 104, the final rolling shall normally be performed hot.

For materials C 104, C 106 and CZ 112, the final rolling of the material shall be performed either hot or cold as agreed between the purchaser and the supplier.