SLOVENSKI STANDARD
SIST EN 1981:1999

01-november-1999

Baker in bakrove zlitine - Predzlitine

Copper and copper alloys - Master alloys

Kupfer und Kupferlegierungen - Vorlegierungen

Cuivre et alliages de cuivre - Alliages-meres

Ta slovenski standard je istoveten z: **EN 1981:1998**

ICS:

77.120.30 Baker in bakrove zlitine Copper and copper alloys

SIST EN 1981:1999 **en**

EUROPEAN STANDARD
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Descriptors: copper, copper alloys, design, chemical composition, shape, sampling, analysis methods

English version

Copper and copper alloys - Master alloys

Cuivre et alliages de cuivre - Alliages-mères

Kupfer und Kupferlegierungen - Vorlegierungen

This European Standard was approved by CEN on 26 June 1998.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword

This European Standard has been prepared by Technical Committee CEN/TC 133 "Copper and copper alloys", the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 1999, and conflicting national standards shall be withdrawn at the latest by January 1999.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 7 "Ingots and castings" to prepare the following standard :

EN 1981
Copper and copper alloys - Master alloys

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered as a supporting standard to other application and product standards which in themselves support an Essential Safety requirement of a New Approach Directive and will appear as a normative reference in them.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

This European Standard has been prepared at the suggestion of the manufacturers of cast and wrought copper alloys, by representatives of the producers and users of master alloys. There is, at present, no similar international standard for copper-based master alloys.

In several cases more than one grade of a particular master alloy is specified, having differing impurity limits, to satisfy the requirements of various end products.

1 Scope

This European Standard specifies the compositions of copper-based master alloys intended for the manufacture, deoxidation, or desulfurization of cast or wrought alloys, especially those based on copper, supplied in the form of ingots, notched bar, notched slab, granules or broken pieces.

A procedure is included for sampling the master alloys for analysis for verification of conformity to the composition requirements.

A method for the determination of chromium(III)-oxide in chromium-copper master alloy is given in annex A.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references, the latest edition of the publication referred to applies.

EN 1655
Copper and copper alloys – Declarations of conformity

EN 10204
Metallic products – Types of inspection documents

NOTE: Informative references to documents used in the preparation of this standard, and cited at the appropriate places in the text, are listed in a bibliography, see annex B.

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 master alloy

Alloy intended only for addition to a melt in order to adjust composition, or to control impurities.

3.2 cast

Product of one crucible, or furnace, melt.

3.3 batch

Portion of master alloy taken from a single cast.

3.4 consignment

Collection of products issued or received as one delivery, consisting of one or more batches of a single master alloy.

4 Designations

4.1 Material

4.1.1 General

The material is designated either by symbol or number (see table 1).

4.1.2 Symbol

The material symbol designation is based on the designation system given in ISO 1190-1.

NOTE: Although material symbol designations used in this standard might be the same as those in other standards using the designation system given in ISO 1190-1, the detailed composition requirements are not necessarily the same.

4.1.3 Number

The material number designation is in accordance with the system given in EN 1412.

4.2 Product

The product designation provides a standardized pattern of designation from which a rapid and unequivocal description of a product is conveyed in communication. It provides mutual comprehension at the international level with regard to products which meet the requirements of the relevant European Standard.

The product designation is no substitute for the full content of the standard.

The product designation for products to this standard shall consist of:

– denomination (Copper master alloy);

– number of this European Standard (EN 1981);

– material designation, either symbol, or number (see table 1);

– material form (the following designations shall be used as appropriate: ING for ingots, NOB for notched bars, NOS for notched slabs, GRN for granules and BPS for broken pieces) (see 6.2).

The derivation of a product designation is shown in the following example.

EXAMPLE:
Copper master alloy conforming to this standard, in material designated either CuP15(B) or CM218E, in the form of granules, shall be designated as follows:

Copper master alloy EN 1981 – CuP15(B) – GRN

or

Copper master alloy EN 1981 – CM218E – GRN

Denomination

Number of this European Standard

Material designation

Material form

5 Ordering information

In order to facilitate the enquiry, order and confirmation of order procedures between the purchaser and the supplier, the purchaser shall state on his enquiry and order the following information:

a) quantity of product required (mass);

b) denomination (Copper master alloy);

c) number of this European Standard (EN 1981);

d) material designation (see table 1);

e) material form (see 6.2).

NOTE: It is recommended that the product designation, as described in 4.2, is used for items b) to e).

In addition, the purchaser shall also state on the enquiry and order any of the following, if required:

f) whether a declaration of conformity is required (see 9.1);

g) whether an inspection document is required, and if so, which type (see 9.2).

EXAMPLE:
Ordering details for 500 kg of copper master alloy conforming to EN 1981, 15 % phosphorus designated either CuP15(B) or CM218E, in granular form, with declaration of conformity:

500 kg Copper master alloy EN 1981 – CuP15(B) – GRN
– with declaration of conformity

or

500 kg Copper master alloy EN 1981 – CM218E – GRN
– with declaration of conformity

6 Requirements

6.1 Composition

The composition shall conform to the requirements for the appropriate material given in table 1.

6.2 Product form

The master alloy shall be in one of the following forms, as requested by the purchaser [see 5 e)]:

- ingot;
- notched bar;
- notched slab;
- granules; or
- broken pieces.

The design of the ingot, notched bar, or notched slab shall be at the discretion of the supplier, unless a specific design is requested by the purchaser.

6.3 Physical condition

The products shall be supplied free from dirt or dross and shall contain no extraneous material detrimental to their metallurgical quality.

Broken pieces shall be reasonably free from fine metallic particles.

7 Sampling

7.1 General

When required (e.g., if necessary in accordance with specified procedures of a supplier's quality system, or when the purchaser requests inspection documents with test results, or for use in cases of dispute), an inspection lot shall be sampled in accordance with 7.2 or 7.3.

7.2 Cast analysis

For routine control purposes a sample representative of each cast shall be taken from the furnace, or crucible, during the process of casting, and poured into a clean chill mould of dimensions appropriate to the chosen method of analysis.

7.3 Cases of dispute

In cases of dispute concerning the composition of a master alloy in a consignment, the method of sampling shall be agreed between the disputing parties.

8 Methods of analysis

8.1 Routine cast analysis

The routine methods of analysis carried out on the sample obtained in accordance with 7.2, to verify conformity of the cast of master alloy to this standard, shall be at the discretion of the supplier.