



NSAI
Standards

Irish Standard
I.S. EN 12167:2016

Copper and copper alloys - Profiles and bars for general purposes

I.S. EN 12167:2016

Incorporating amendments/corrigenda/National Annexes issued since publication:

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National Foreword

I.S. EN 12167:2016 is the adopted Irish version of the European Document EN 12167:2016, Copper and copper alloys - Profiles and bars for general purposes

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EUROPEAN STANDARD

EN 12167

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 77.150.30

Supersedes EN 12167:2011

English Version

Copper and copper alloys - Profiles and bars for general purposes

Kupfer und Kupferlegierungen - Profile und Rechteckstangen zur allgemeinen Verwendung

This European Standard was approved by CEN on 9 April 2016.

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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

European foreword.....	5
Introduction	7
1 Scope	8
2 Normative references	8
3 Terms and definitions	8
4 Designations.....	9
4.1 Material.....	9
4.1.1 General.....	9
4.1.2 Symbol.....	9
4.1.3 Number	9
4.2 Material condition	9
4.3 Product.....	9
5 Ordering information	11
6 Requirements	13
6.1 Composition	13
6.2 Mechanical properties.....	13
6.2.1 Profiles	13
6.2.2 Bar	13
6.3 Resistance to dezincification	13
6.4 Residual stress level.....	14
6.5 Dimensions and tolerances	14
6.5.1 Cross-sectional dimensions.....	14
6.5.2 Length.....	14
6.5.3 Flatness.....	14
6.5.4 Straightness.....	15
6.5.5 Twist	15
6.5.6 Corner radii of bar	16
6.6 Surface quality.....	16
7 Sampling.....	17
7.1 General.....	17
7.2 Analysis.....	17
7.3 Tensile and hardness tests	17
7.4 Dezincification resistance and stress corrosion resistance tests.....	17
8 Test methods	17
8.1 Analysis.....	17
8.2 Tensile test	18
8.2.1 General.....	18
8.2.2 Location of test pieces	18
8.2.3 Shape and size of test pieces	18
8.2.4 Procedure for testing.....	18
8.2.5 Expression of results.....	18
8.3 Hardness test	18

8.4	Dezincification resistance test.....	19
8.5	Stress corrosion resistance test	19
8.6	Retests	19
8.6.1	Analysis, tensile, hardness and dezincification resistance tests.....	19
8.6.2	Stress corrosion resistance test	19
8.7	Rounding of results.....	19
9	Declaration of conformity and inspection documentation	20
9.1	Declaration of conformity	20
9.2	Inspection documentation	20
10	Marking, packaging, labelling	20
	Bibliography	50

Tables

Table 1	— Composition of low alloyed copper alloys	21
Table 2	— Composition of copper-aluminium alloys.....	22
Table 3	— Composition of copper-nickel-zinc alloys.....	23
Table 4	— Composition of copper-tin alloys.....	23
Table 5	— Composition of copper-zinc alloys	24
Table 6	— Composition of copper-zinc-lead alloys	25
Table 7	— Composition of complex copper-zinc alloys.....	27
Table 8	— Mechanical properties of low alloyed copper alloys.....	29
Table 9	— Mechanical properties of copper-aluminium alloys.....	33
Table 10	— Mechanical properties of copper-nickel-zinc alloys	34
Table 11	— Mechanical properties of copper-tin alloys.....	36
Table 12	— Mechanical properties of copper-zinc alloys	37
Table 13	— Mechanical properties of copper-zinc-lead alloys	39
Table 14	— Mechanical properties of complex copper-zinc alloys	41
Table 15	— Tolerances on width (<i>b</i>) and height of a leg (<i>h</i>) for profiles with L-, T- and U-cross-sections.....	44
Table 16	— Tolerances on thickness for profiles with L-, T- and U-cross-sections.....	45
Table 17	— Tolerances on width and thickness of bar	46
Table 18	— Tolerances on length of bar.....	46
Table 19	— Tolerances on straightness of bar, for widths 10 mm and over.....	47
Table 20	— Maximum twist of bar.....	47
Table 21	— Corner radii of bar	47
Table 22	— Sampling rate.....	49

EN 12167:2016 (E)

Figures

Figure 1 — Measurement of flatness of bar	15
Figure 2 — Measurement of twist of bar.....	16

European foreword

This document (EN 12167:2016) 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 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 12167:2011.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 4 “Extruded and drawn products, forgings and scrap” to revise the following standard:

— EN 12167:2011, *Copper and copper alloys — Profiles and bars for general purposes*.

This document is one of a series of European Standards for the copper and copper alloy products rod, wire, profile and forgings. Other products are specified as follows:

— EN 12163, *Copper and copper alloys — Rod for general purposes*;

— EN 12164, *Copper and copper alloys — Rod for free machining purposes*;

— EN 12165, *Copper and copper alloys — Wrought and unwrought forging stock*;

— EN 12166, *Copper and copper alloys — Wire for general purposes*;

— EN 12168, *Copper and copper alloys — Hollow rod for free machining purposes*;

— EN 13601, *Copper and copper alloys — Copper rod, bar and wire for general electrical purposes*;

— EN 13602, *Copper and copper alloys — Drawn, round copper wire for the manufacture of electrical conductors*;

— EN 13605, *Copper and copper alloys — Copper profiles and profiled wire for electrical purposes*.

In comparison with EN 12167:2011, the following significant technical changes were made:

- a) addition of four new materials: CuZn37Pb1 (CW605N), CuZn35Pb1,5AlAs (CW625N), CuZn33Pb1,5AlAs (CW626N) and CuZn33Pb1AlSiAs (CW725R) due to the market requirements on restriction of lead and modification of the chemical composition for CuZn39Pb1 (CW611N);
- b) introduction of an optional procedure how to refer to restrictions to the chemical composition imposed by the 4 MS Common Composition List for materials used for products accepted for contact with drinking water;
- c) requirements and test methods for resistance of dezincification modified;
- d) provisions for surface quality added;

EN 12167:2016 (E)

e) mechanical properties for CuZn21Si3P (CW724R) modified.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

The European Committee for Standardization (CEN) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning the alloy CuZn21Si3P (CW724R) and CuZn33Pb1AlSiAs (CW725R) given in 6.1.

CEN takes no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has ensured the CEN that he is willing to negotiate licenses either free of charge or under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with CEN.

— For CuZn21Si3P (CW724R) information may be obtained from:

Wieland-Werke AG
Graf Arco Straße 36
D-89079 Ulm
GERMANY

— For CuZn33Pb1AlSiAs (CW725R) information may be obtained from:

Diehl Metall Messing
Heinrich-Diehl-Straße 9
D-90552 Röthenbach/Pegnitz
GERMANY

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CEN and CENELEC maintain online lists of patents relevant to their standards. Users are encouraged to consult the lists for the most up to date information concerning patents (<ftp://ftp.cencenelec.eu/EN/IPR/Patents/IPRdeclaration.pdf>).

Due to developing legislation, the composition of a material may be restricted to the composition specified in this European Standard with respect to individual uses (e.g. for the use in contact with drinking water in some Member States of the European Union). These individual restrictions are not part of this European Standard. Nevertheless, for materials for which traditional and major uses are affected, these restrictions are indicated. The absence of an indication, however, does not imply that the material can be used in any application without any legal restriction.

EN 12167:2016 (E)**1 Scope**

This European Standard specifies the composition, property requirements and dimensional tolerances for copper alloy profiles including L-, T-, U-shaped cross-sections, and bars, finally produced by drawing or extruding.

This European Standard applies to profiles with L-, T- and U-shaped cross-sections which would fit within a circumscribing circle of a maximum 180 mm diameter and to bars with thicknesses from 3 mm up to and including 60 mm and with widths from 6 mm up to and including 120 mm.

The sampling procedures, the methods of test for verification of conformity to the requirements of this European Standard, are also specified.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1173, *Copper and copper alloys - Material condition designation*

EN 1412, *Copper and copper alloys - European numbering system*

EN 1655, *Copper and copper alloys - Declarations of conformity*

EN 10204, *Metallic products - Types of inspection documents*

EN 14977, *Copper and copper alloys - Detection of tensile stress - 5 % ammonia test*

EN ISO 6506-1, *Metallic materials - Brinell hardness test - Part 1: Test method (ISO 6506-1)*

EN ISO 6509-1, *Corrosion of metals and alloys - Determination of dezincification resistance of copper alloys with zinc - Part 1: Test method (ISO 6509-1)*

EN ISO 6892-1, *Metallic materials - Tensile testing - Part 1: Method of test at room temperature (ISO 6892-1)*

ISO 1190-1, *Copper and copper alloys — Code of designation — Part 1: Designation of materials*

ISO 4739, *Wrought copper and copper alloy products — Selection and preparation of specimens and test pieces for mechanical testing*

ISO 6957, *Copper alloys — Ammonia test for stress corrosion resistance*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

**3.1
profile**

straight product of uniform cross-section along its whole length, in the shape other than rod, hollow rod, bar, tube, sheet or strip

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