



**NSAI**  
Standards

Irish Standard  
I.S. EN 12163:2016

# Copper and copper alloys - Rod for general purposes

**I.S. EN 12163:2016**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN 12163:2016 is the adopted Irish version of the European Document EN 12163:2016, Copper and copper alloys - Rod for general purposes

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EUROPEAN STANDARD

**EN 12163**

NORME EUROPÉENNE

EUROPÄISCHE NORM

July 2016

ICS 77.150.30

Supersedes EN 12163:2011

English Version

## Copper and copper alloys - Rod for general purposes

Cuivre et alliages de cuivre - Barres pour usages  
généraux

Kupfer und Kupferlegierungen - Stangen 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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**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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**EN 12163:2016 (E)****European foreword**

This document (EN 12163:2016) 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of an identical text or by endorsement, at the latest by January 2017, and conflicting national standards shall be withdrawn at the latest by January 2017.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 12163:2011.

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 12163:2011, *Copper and copper alloys — Rod 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 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 12167, *Copper and copper alloys — Profiles and bars 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 12163:2011, the following significant technical changes were made:

- a) 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;
- b) requirements and test methods for resistance of dezincification modified;
- c) provisions for surface quality added;
- d) 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.

**EN 12163:2016 (E)****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) 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. Information may be obtained from:

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

## 1 Scope

This European Standard specifies the composition, property requirements and dimensional tolerances for copper alloy rod in the shape of circles, squares, hexagons or octagons, finally produced by drawing or extruding intended for general purposes.

The sampling procedures and 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 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

#### **rod**

straight product of uniform cross-section along its whole length

### 3.2

#### **deviation from circular form**

difference between the maximum and the minimum diameters measured at any one cross-section of a round product

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