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Standards

Irish Standard  
I.S. EN 12164:2011

# Copper and copper alloys - Rod for free machining purposes

## I.S. EN 12164:2011

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

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I.S. xxx: Irish Standard – national specification based on the consensus of an expert panel and subject to public consultation.

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SWIFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

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English Version

## Copper and copper alloys - Rod for free machining purposes

Cuivre et alliages de cuivre - Barres pour décolletage

Kupfer und Kupferlegierungen - Stangen für die spanende  
Bearbeitung

This European Standard was approved by CEN on 14 April 2011.

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## Foreword

This document (EN 12164:2011) 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of an identical text or by endorsement, at the latest by December 2011, and conflicting national standards shall be withdrawn at the latest by December 2011.

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

This document supersedes EN 12164:1998.

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 12164:1998, *Copper and copper alloys — Rod for free machining purposes.*

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

— EN 12163, *Copper and copper alloys — Rod for general 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 13347, *Copper and copper alloys — Rod and wire for welding and braze welding;*

— 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 wires for electrical purposes.*

In comparison with EN 12164:1998, the following significant technical changes were made:

a) Introduction of indicative shaped ends dimensions (Table 1);

b) Removal of four materials:

1) CuZn38Pb4 (CW609N);

2) CuZn37Pb1Sn1 (CW714R);

3) CuSn4Pb2P (CW455K) and CuSn4Te1P (CW457K);

- c) Addition of five new materials:
  - 1) CuZn40 (CW509L), CuZn42 (CW510L) and CuZn38As (CW511L) due to the market requirements on restriction of lead;
  - 2) CuZn21Si3P (CW724R) due to the market requirements on restriction of lead;
  - 3) CuZn32Pb2AsFeSi (CW709R);
- d) Revision of the mechanical properties (Tables 8 to 13) to reflect market needs; in particular the 0,2 % proof strength that was previously informative is now mandatory since it is an important figure for design purposes;
- e) Modification of the sampling rate (Table 20).

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland 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) 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 assured the CEN that he is willing to negotiate licenses 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  
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