



SLOVENSKI STANDARD
kSIST FprEN 12449:2015

01-oktober-2015

Baker in bakrove zlitine - Nevarjene cevi z okroglim prerezom za splošno uporabo

Copper and copper alloys - Seamless, round tubes for general purposes

Kupfer und Kupferlegierungen - Nahtlose Rundrohre zur allgemeinen Verwendung

Cuivre et alliages de cuivre - Tubes ronds sans soudure pour usages généraux

Ta slovenski standard je istoveten z: FprEN 12449

ICS:

23.040.15	Cevi iz neželeznih kovin	Non-ferrous metal pipes
77.150.30	Bakreni izdelki	Copper products

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English Version

Copper and copper alloys - Seamless, round tubes for general purposes

Cuivre et alliages de cuivre - Tubes ronds sans soudure
pour usages généraux

Kupfer und Kupferlegierungen - Nahtlose Rundrohre zur
allgemeinen Verwendung

This draft European Standard is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 133.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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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

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FprEN 12449:2015 (E)**Foreword**

This document (FprEN 12449:2015) has been prepared by Technical Committee CEN/TC 133 "Copper and copper alloys", the secretariat of which is held by DIN.

This document is currently submitted to the Unique Acceptance Procedure.

This document will supersede EN 12449:2012.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 3 "Copper tubes (installation and industrial)" to revise the following standard:

- EN 12449:2012, *Copper and copper alloys — Seamless, round copper tubes for general purposes.*

This is one of a series of European Standards for copper and copper alloy tubes. Other products are specified as follows:

- EN 1057, *Copper and copper alloys — Seamless, round copper tubes for water and gas in sanitary and heating applications;*
- EN 12450, *Copper and copper alloys — Seamless, round copper capillary tubes;*
- EN 12451, *Copper and copper alloys — Seamless, round tubes for heat exchangers;*
- EN 12452, *Copper and copper alloys — Rolled, finned, seamless tubes for heat exchangers;*
- EN 12735-1, *Copper and copper alloys — Seamless, round tubes for air conditioning and refrigeration — Part 1: Tubes for piping systems;*
- EN 12735-2, *Copper and copper alloys — Seamless, round tubes for air conditioning and refrigeration — Part 2: Tubes for equipment;*
- EN 13348, *Copper and copper alloys — Seamless, round copper tubes for medical gases or vacuum;*
- EN 13349, *Copper and copper alloys — Pre-insulated copper tubes with solid covering;*
- EN 13600, *Copper and copper alloys — Seamless copper tubes for electrical purposes.*

In comparison with EN 12449:2012, the following significant technical changes were made:

- a) Addition of the new material CuFe0,1Sn0,1P (CW125C);
- b) Modification of the elongation values for Cu-DHP (CW024A) in material condition R250 including new Table 16;
- c) Modification of iron and tin content for CuZn37Pb1 (CW605N) from 0,2 % to 0,3 % in Table 7;
- d) Replacement of the material number CW121C by CW124C for CuSi3Zn2P.

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 CuSi₃Zn₂P (CW124C) and 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 not-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 CuSi₃Zn₂P (CW124C) information may be obtained from:

VIEGA GmbH & Co. KG

Ennester Weg 9

57439 Attendorn

GERMANY

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

Wielandwerke AG

Graf Arco Straße 36

89079 Ulm

GERMANY

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

FprEN 12449:2015 (E)

1 Scope

This European Standard specifies the composition, property requirements and tolerances on dimensions and form for seamless round drawn copper and copper alloy tubes for general purposes supplied in the size range from 3 mm up to and including 450 mm outside diameter and from 0,3 mm up to and including 20 mm wall thickness.

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

NOTE Tubes having an outside diameter less than 80 mm and/or a wall thickness greater than 2 mm in certain alloys are most frequently used for free machining purposes which are specified in EN 12168.

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 1655, *Copper and copper alloys — Declarations of conformity*

EN 1971-1, *Copper and copper alloys — Eddy current test for measuring defects on seamless round copper and copper alloy tubes — Part 1: Test with an encircling test coil on the outer surface*

EN 1971-2, *Copper and copper alloys — Eddy current test for measuring defects on seamless round copper and copper alloy tubes — Part 2: Test with an internal probe on the inner surface*

EN 1976, *Copper and copper alloys — Cast unwrought copper products*

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

EN 16090, *Copper and copper alloys — Estimation of average grain size by ultrasound*

EN ISO 196, *Wrought copper and copper alloys — Detection of residual stress — Mercury(I) nitrate test (ISO 196)*

EN ISO 2624, *Copper and copper alloys — Estimation of average grain size (ISO 2624)*

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

EN ISO 6507-1; *Metallic materials — Vickers hardness test — Part 1: Test method (ISO 6507-1)*

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

EN ISO 8493, *Metallic materials — Tube — Drift-expanding test (ISO 8493)*

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.