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STN	**Meď a zliatiny medi Medené bezšvové rúry kruhového prierezu na klimatizačné a chladiace zariadenia Časť 2: Rúry na zariadenia**	**STN EN 12735-2 42 8704**

Copper and copper alloys - Seamless, round tubes for air conditioning and refrigeration - Part 2: Tubes for equipment

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/25

Obsahuje: EN 12735-2:2024

Oznámením tejto normy sa ruší
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EUROPEAN STANDARD
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EN 12735-2

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ICS 23.040.15 Supersedes EN 12735-2:2016

English Version

Copper and copper alloys - Seamless, round tubes for air conditioning and refrigeration - Part 2: Tubes for equipment

Cuivre et alliages de cuivre - Tubes ronds sans soudure pour l'air conditionné et la réfrigération - Partie 2: Tubes pour le matériel

Kupfer und Kupferlegierungen - Nahtlose Rundrohre für die Kälte- und Klimatechnik - Teil 2: Rohre für Apparate

This European Standard was approved by CEN on 30 September 2024.

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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

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European foreword

This document (EN 12735-2:2024) 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of an identical text or by endorsement, at the latest by May 2025 and conflicting national standards shall be withdrawn at the latest by May 2025.

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 12735-2:2016.

EN 12735-2:2024 includes the following significant technical changes with respect to EN 12735-2:2016:

a) NOTE in Scope modified;

b) Normative references updated;

c) Diameter added in Clause 5, Example 1 and Example 2;

d) Table 1 modified;

e) Conditions corrected in Table 3, footnote c;

f) Tolerance on mean wall thickness in Table 5 (0,06 was 0,08) amended;

g) Minimum diameter reduced to 3,97 in Table 8;

h) 6.4.4 and 6.4.5 amended;

i) 6.4.6, 6.4.7, 6.4.8 added;

j) 6.5 and 6.6.1 amended;

k) 8.4 amended;

l) Coil mass range and nominal width range extended in Table 12;

m) Annex ZA amended;

n) Several editorial amendments.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

EN 12735, *Copper and copper alloys — Seamless, round tubes for air conditioning and refrigeration* is currently composed of the following parts:

— *Part 1: Tubes for piping systems*

— *Part 2: Tubes for equipment*

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 12449, *Copper and copper alloys — Seamless, round tubes for general purposes*

— 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 copper tubes for air conditioning and refrigeration — Part 1: Tubes for piping systems*

— 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*

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Introduction

It is recommended that tubes manufactured in accordance with this document are certified as conforming to the requirements of this document based on continuing surveillance which should be coupled with an assessment of a supplier's quality management system.

NOTE It is advised to take appropriate precautions if applying insulating material because it could be detrimental to the copper tube.

For this harmonized supporting standard for materials, presumption of conformity to the Essential Requirements of the Directive is limited to technical data of the material in the standard and does not presume adequacy of the material to specific equipment. Consequently, the technical data stated in the material standard should be assessed against the design requirements of the specific equipment to verify that the essential requirements of the Pressure Equipment Directive (PED) are satisfied.

1 Scope

This document specifies the requirements, sampling, test methods and conditions of delivery for seamless round copper tubes, smooth or inner finned, used for heat exchangers and their internal connecting pipes in the manufacturing of refrigeration and air conditioning equipment.

It is applicable to tubes with an outside diameter from 3,97 mm up to and including 219 mm.

NOTE The tubes are supplied in straight length or as coils.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 723:2009, *Copper and copper alloys — Combustion method for determination of the carbon content on the inner surface of copper tubes or fittings*

EN 764-5:2014, *Pressure equipment — Part 5: Inspection documentation of metallic materials and compliance with the material specification*

EN 1173:2008, *Copper and copper alloys — Material condition designation*

EN 1971-1:2019, *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 1971-2:2019, *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 10204:2004, *Metallic products — Types of inspection documents*

EN 16090:2019, *Copper and copper alloys — Estimation of average grain size by ultrasound*

EN 16117-2:2012, *Copper and copper alloys — Determination of copper content — Part 2: Electrolytic determination of copper in materials with copper content higher than 99,80 %*

EN ISO 2624:1995, *Copper and copper alloys — Estimation of average grain size (ISO 2624:1990)*

EN ISO 6507-1:2023, *Metallic materials — Vickers hardness test — Part 1: Test method (ISO 6507-1:2023)*

EN ISO 6892-1:2019, *Metallic materials — Tensile testing — Part 1: Method of test at room temperature (ISO 6892-1:2019)*

EN ISO 8493:2004, *Metallic materials — Tube — Drift-expanding test (ISO 8493:1998)*

EN ISO/IEC 17050-1:2010, *Conformity assessment — Supplier's declaration of conformity — Part 1: General requirements (ISO/IEC 17050-1:2004, corrected version 2007-06-15)*

EN ISO/IEC 17050-2:2004, *Conformity assessment — Supplier's declaration of conformity — Part 2: Supporting documentation (ISO/IEC 17050-2:2004)*

ISO 4741:1984, *Copper and copper alloys — Determination of phosphorus content — Molybdovanadate spectrometric method*