



National Standards Authority of Ireland

STANDARD

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**COPPER AND COPPER ALLOYS - SEAMLESS,
ROUND COPPER CAPILLARY TUBES**

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ICS 77.120.30; 77.140.90

English version

Copper and copper alloys - Seamless, round copper capillary tubes

Cuivre et alliages de cuivre - Tubes capillaires, ronds, sans soudure en cuivre

Kupfer und Kupferlegierungen - Nahtlose, runde Kapillarrohre aus Kupfer

This European Standard was approved by CEN on 14 June 1999.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.



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

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by January 2000, and conflicting national standards shall be withdrawn at the latest by January 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 3.2 "Tubes for general purposes" to prepare the following standard:

EN 12450

Copper and copper alloys – Seamless, round copper capillary tubes

This is one of a series of European Standards for copper and copper alloy tubes. Other products are, or will be, 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 12451

Copper and copper alloys – Seamless, round tubes for heat exchangers

EN 12452

Copper and copper alloys – Rolled, finned, seamless tubes for heat exchangers

prEN 12735-1

Copper and copper alloys – Seamless, round copper tubes for air conditioning and refrigeration – Part 1: Tubes for piping systems

prEN 12735-2

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

prEN 13348

Copper and copper alloys – Seamless, round copper tubes for medical gases

prEN 13349

Copper and copper alloys – Pre-insulated copper tubes with solid covering

prEN 13600

Copper and copper alloys – Seamless copper tubes for electrical purposes

According to CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

1 Scope

This European Standard specifies the composition, property requirements and tolerances on dimensions and form for seamless round copper capillary tubes for use as metering lines for liquids or gases where close controls over the smoothness and dimensions of the bore are required to ensure uniform flow characteristics.

This standard applies to capillary tubes in straight lengths, or in coils, in the size range up to 6,10 mm outside diameter and from 0,30 mm up to and including 4,45 mm inside diameter which are intended for restrictor applications.

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

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 1655
Copper and copper alloys – Declarations of conformity

EN 10002-1
Metallic materials – Tensile testing – Part 1: Method of test (at ambient temperature)

EN 10204
Metallic products – Types of inspection documents

EN ISO 6507-1
Metallic materials – Vickers hardness test – Part 1: Test method (ISO 6507-1:1997)

NOTE: Informative references to documents used in the preparation of this standard, and cited at the appropriate places in the text, are listed in a bibliography, see annex A.

3 Definitions

For the purposes of this standard, the following definitions apply:

3.1 seamless round tube

Hollow semi-finished product, circular in cross-section, having a uniform wall thickness which at all stages of production has a continuous periphery.

3.2 mean diameter

Arithmetical mean of any two diameters normal to each other at the same cross-section of the tube.

3.3 deviation from circular form

Difference between the maximum and minimum outside diameters measured at any one cross-section of the tube.

3.4 capillary tube

Tube of small inside diameter with an inside surface of high quality and conforming to close diameter tolerances. It is subject to special tests to ensure precision and uniformity of bore, having been specially cleaned.

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