

**Vask ja vasesulamid. Plaadid, lehed, ribad ja
ümarplaadid katelde, surveanumate ja kuuma vee
säilitussõlmede jaoks**

Copper and copper alloys - Plate, sheet and circles for
boilers, pressure vessels and hot water storage units

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1653:1999 sisaldab Euroopa standardi EN 1653:1997 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 23.11.1999 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1653:1999 consists of the English text of the European standard EN 1653:1997.

This standard is ratified with the order of Estonian Centre for Standardisation dated 23.11.1999 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

ICS 77.150.30

Standardite reprodutseerimis- ja levitamisoigus kuulub Eesti Standardikeskusele

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Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
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Descriptors: copper, copper alloys, rolled products, metal plates, blank, boilers, pressure equipment, storage, hot water, designation, chemical composition, mechanical properties, dimensional tolerances, sampling, tests

English version

**Copper and copper alloys - Plate, sheet and circles for boilers,
pressure vessels and hot water storage units**

Cuivre et alliages de cuivre - Plaques, tôles et disques pour
chaudières, réservoirs à pression et unités de stockage
d'eau chaude

Kupfer und Kupferlegierungen - Platten, Bleche und
Ronden für Kessel, Druckbehälter und
Warmwasserspeicheranlagen

This European Standard was approved by CEN on 6 November 1997.

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 June 1998, and conflicting national standards shall be withdrawn at the latest by June 1998.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 2 "Rolled flat products" to prepare the following standard:

EN 1653

Copper and copper alloys – Plate, sheet and circles for boilers, pressure vessels and hot water storage units

This is one of a series of European Standards for copper and copper alloy rolled flat products. Other products are, or will be, specified as follows:

EN 1172

Copper and copper alloys – Sheet and strip for building purposes

EN 1652

Copper and copper alloys – Plate, sheet, strip and circles for general purposes

EN 1654

Copper and copper alloys – Strip for springs and connectors

EN 1758

Copper and copper alloys – Strip for lead frames

Copper and copper alloys – Copper plate, sheet and strip for electrical purposes (WI: 00133022)

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.

1 Scope

This European Standard specifies the composition, property requirements and tolerances on dimensions and form for copper and copper alloy plate, sheet and circles for boilers, pressure vessels, heat exchangers and hot water storage units.

The sampling procedures, the methods of test for verification of conformity to the requirements of this standard, and the delivery conditions 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

ISO 1811-2

Copper and copper alloys – Selection and preparation of samples for chemical analysis – Part 2: Sampling of wrought products and castings

ISO 6507-1

Metallic materials – Hardness test – Vickers test – Part 1: HV 5 to HV 100

ISO 6507-2

Metallic materials – Hardness test – Vickers test – Part 2: HV 0,2 to less than HV 5

ISO 7438

Metallic materials – Bend test

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, based on ISO 197-5, apply:

3.1 plate

Flat rolled product of rectangular cross-section with uniform thickness greater than 10 mm, usually with sheared, sawn or machined edges.

3.2 sheet

Flat rolled product of rectangular cross-section with uniform thickness from 0,2 mm up to and including 10 mm, supplied in straight lengths, usually with sheared or sawn edges. The thickness does not exceed one tenth of the width.

3.3 circle

Circular blank.