

**Vask ja vasesulamid. Ribad vedrude ja liideste jaoks**

Copper and copper alloys - Strip for springs and connectors

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 1654:2000 sisaldab Euroopa standardi EN 1654:1997 + AC:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 1654:2000 consists of the English text of the European standard EN 1654:1997 + AC:2002.</p> <p>This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b> See Euroopa standard määrab kindlaks vedrude ja liideste tootmiseks ette nähtud vasesulamitest ribade koostise, kvaliteedinõuded ning mõõtmetolerantsid ja kuju lubatud piirhälbed. Nimetatud ribade paksus on 0,1 mm kuni 1,0 mm (1,0 mm kaasa arvatud) ning nende laius on kuni 350 mm (350 mm kaasa arvatud). Kindlaks on määratud ka proovivõtu- ja katsetusmeetodid selle standardi nõuetele vastavuse kontrollimiseks, samuti tarnetingimused.</p>	<p><b>Scope:</b></p>
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**ICS 77.150.30**

**Võtmesõnad:** katsed, keemiline koostis, liidesed, mehaanilised omadused, mõõtmed, mõõtmetolerantsid, proovivõtmine, terasribad, tähistus, valtstooted, vasesulamid, vask, vedrud

ICS 77.150.30

Descriptors: Copper, strip, springs, connectors.

**English version**

**Copper and copper alloys – Strip for springs  
and connectors**

Cuivre et alliages de cuivre – Bandes  
pour ressorts et connecteurs

Kupfer und Kupferlegierungen –  
Bänder für Federn und Steckverbinder

This European Standard was approved by CEN on 1997-11-06.

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.

The European Standards exist 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, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

**CEN**

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

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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 1654  
Copper and copper alloys – Strip for springs and connectors

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 1653  
Copper and copper alloys – Plate, sheet and circles for boilers, pressure vessels and hot water storage units

EN 1758  
Copper and copper alloys – Strip for lead frames

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

This standard gives information, which might be useful to the user, on physical properties of the product contained in annex A.

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 alloy strip intended for the fabrication of springs and connectors, with thicknesses from 0,1 mm up to and including 1,0 mm and with widths up to and including 350 mm.

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

prEN 12384

Copper and copper alloys – Determination of spring bending limit on strip

ISO 1811-2

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

ISO 6507-2

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

ISO 6507-3

Metallic materials – Hardness test – Vickers test – Part 3: Less than HV 0,2

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 B.