EESTI STANDARD EVS-EN 1977:2000

Vask ja vasesulamid. Tõmmatud vasktoorik (valtsitud pooltoode - peenike täitevarb)

Copper and copper alloys - Copper drawing stock (wire rod)

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 1977:2000 sisaldab Euroopa standardi EN 1977:1998 ingliskeelset teksti. Käesolev dokument on jõustatud 11.01.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1977:2000 consists of the English text of the European standard EN 1977:1998. This document is endorsed on 11.01.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See Euroopa standard määrab kindlaks nende kõrge elektrijuhtivusega vasest tõmmatud toorikute (valtsitud pooltoodete) koostise, mehaanilised, elektrilised ja füüsikalised omadused, mida kasutatakse traadi tootmiseks külmtõmbamismeetodil, peamiselt elektrit juhtivate materjalide tootmiseks. Standard hõlmab üheksast vasemargist ja üheksast hõbedat sisaldavast vasemargist tõmmatud toorikuid (valtsitud pooltooteid). Ristlõige on tavaliselt lähedane ümmargusele, läbimõõtude vahemikuga alates 6 mm.	**Scope:**

ICS 77.150.30

Võtmesõnad: elektrijuhtivused, elektrilised omadused, katsed, keemiline koostis, kvaliteet, külmtõmmatud tooted, mõõtmetolerantsid, märgistus, pikenemine, proovivõtmine, tähistused, valtsitud pooltoode (peenike täitevarb), vasesulamid, vask

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EN 1977

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Descriptors: Copper, wire rod.

English version

Copper and copper alloys

Copper drawing stock (wire rod)

Cuivre et alliages de cuivre – Fil machine en cuivre

Kupfer und Kupferlegierungen – Vordraht aus Kupfer

This European Standard was approved by CEN on 1998-02-28.

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

Ref. No. EN 1977 : 1998 E

Contents

Page

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.

Within its programme of work, Technical Committee CEN/TC 133 requested CEN/TC 133/WG 1 "Unwrought copper products" to prepare the following standard:

EN 1977 Copper and copper alloys - Copper drawing stock (wire rod)

This is one of a series of European Standards for products manufactured from refined copper grades. Other products are specified as follows:

EN 1976 Copper and copper alloys - Cast unwrought copper products

EN 1978 Copper and copper alloys - Copper cathodes

Wires for conductors will be specified in ----*) Copper and copper alloys - Drawn round copper wire for the manufacture of electrical conductors (W1: 00133025).

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

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.

*) In course of preparation

Introduction

Copper drawing stock (wire rod) is normally manufactured by one of the following process routes:

a) continuous casting and hot rolling in tandem;

b) continuous or semi-continuous casting and cold rolling;

c) rolling of wire bar or billets; or

d) extrusion.

Annex A (informative) gives information on the relationships between electrical resistivity and conductivity (of copper).

1 Scope

This European Standard specifies the composition, mechanical, electrical and physical properties for high conductivity copper drawing stock (wire rod) suitable for fabrication into wire by cold drawing, principally for the manufacture of electrical conductors. The standard covers drawing stock (wire rod), in nine grades of copper and nine silver-bearing copper grades. Normally, the cross-section is approximately circular, in a range of diameters from 6 mm.

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 12893	Copper and copper alloys - Determination of spiral elongation number
EN IS0 2626	Copper - Hydrogen embrittlement test (IS0 2626: 1973)

IEC 468 Methods of measurement of resistivity of metallic materials

IS0 4746 Oxygen-free copper - Scale adhesion 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.

3 Definitions

For the purposes of this standard, the following definition applies:

drawing stock (wire rod)

Intermediate solid wrought product, of uniform cross-section along its whole length, supplied in coils.

4 Designations

4.1 Material

4.1.1 *General*

The material is designated either by symbol or number (see tables 1 to 4).

4.1.2 *Symbol*

The material symbol designation is based on the designation system given in IS0 1190-1.

NOTE : Although material symbol designations used in this standard might be the same as those in other standards using the designation system given in IS0 1190-1, the detailed composition requirements are not necessarily the same.