

**Keevitajate vastuvõtukatsetus.
Sulakeevitus. Osa 3: Vask ja
vasesulamid**

Approval testing of welders - Fusion welding - Part 3:
Copper and copper alloys

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 9606-3:1999 sisaldab Euroopa standardi EN ISO 9606-3:1999 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 23.11.1999 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 9606-3:1999 consists of the English text of the European standard EN ISO 9606-3:1999.</p> <p>This document is endorsed on 23.11.1999 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>Käsitlusala: This standard specifies essential requirements, ranges of approval, test conditions, acceptance requirements and certification for the approval testing of welder performance for the welding of copper.</p>	<p>Scope: This standard specifies essential requirements, ranges of approval, test conditions, acceptance requirements and certification for the approval testing of welder performance for the welding of copper.</p>
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ICS 25.160.10

Võtmesõnad:

English version

Approval testing of welders – Fusion welding

**Part 3: Copper and copper alloys
(ISO 9606-3 : 1999)**

Epreuve de qualification des
soudeurs – Soudage par fusion –
Partie 3: Cuivre et ses alliages
(ISO 9606-3 : 1999)

Prüfung von Schweißern – Schmelz-
schweißen – Teil 3: Kupfer und
Kupferlegierungen
(ISO 9606-3 : 1999)

This European Standard was approved by CEN on 1998-11-20.

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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.

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CEN

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

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Foreword

The text of EN ISO 9606-3:1999 has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS, in collaboration with Technical Committee ISO/TC 44 "Welding and allied processes".

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 October 1999, and conflicting national standards shall be withdrawn at the latest by October 1999.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZB, which is an integral part of this standard.

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.

Introduction

This standard covers the principles to be observed in the approval testing of welder performance for the fusion welding of copper and copper alloys.

The term "copper" stands for copper and weldable copper alloys.

The ability of the welder to follow verbal or written instructions and testing of his skill are important factors in ensuring the quality of the welded product.

Testing of skill to this standard depends on welding methods in which uniform rules and test conditions are complied with, and standard test pieces are used.

The test weld can be used to approve a welding procedure and a welder provided that all the relevant requirements, e.g. test piece dimensions, are satisfied (see relevant part of EN 288-2).

1 Scope

This standard specifies essential requirements, ranges of approval, test conditions, acceptance requirements and certification for the approval testing of welder performance for the welding of copper.

This standard applies to the approval testing of welders for the fusion welding of copper.

This standard is intended to provide the basis for the mutual recognition by examining bodies for approval relating to welders' competence in the various fields of application. Tests will be carried out in accordance with this standard unless more severe tests are specified by the relevant application standard when these are applied.

During the approval test the welder should be required to show adequate practical experience and job knowledge (test non mandatory) of the welding processes, materials and safety requirements for which he is to be approved; information on these aspects is given in Annex A.

This standard is applicable when the welder's approval testing is required by the purchaser, by inspection authorities or by other organizations.

The welding processes referred to in this standard include those fusion welding processes which are designated as manual or partly mechanized welding. It does not cover fully mechanized and automatic processes (see 5.2).

This standard covers approval testing of welders for work on semi-finished and finished products made from wrought, forged or cast material types listed in 5.4.

The certificate of approval testing is issued under the sole responsibility of the examiner or examining body.

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 287-1 : 1992

Approval testing of welders – Fusion welding – Part 1: Steels

EN 287-2 : 1992

Approval testing of welders – Fusion welding – Part 2: Aluminium and aluminium alloys

EN 288-2 : 1992

Specification and approval of welding procedures for metallic materials – Part 2: Welding procedure specification for arc welding

EN 571-1

Non destructive testing – Penetrant testing – Part 1: General principles

EN 895

Destructive tests on welds in metallic materials – Transverse tensile test

EN 910

Destructive tests on welds in metallic materials – Bend tests

EN 970

Non-destructive examination of fusion welds – Visual examination

- EN 1289
Non-destructive examination of welds – Penetrant testing of welds – Acceptance levels
- EN 1320
Destructive tests on welds in metallic materials – Fracture test
- EN 1321
Destructive tests on welds in metallic materials – Macroscopic and microscopic examination of welds
- EN 1435
Non-destructive examination of welds – Radiographic examination of welded joints
- EN 24063 : 1992
Welding, brazing, soldering and braze welding of metals – Nomenclature of processes and reference numbers for symbolic representation on drawings (ISO 4063 : 1990)
- EN 26520 : 1991
Classification of imperfections in metallic fusion welds, with explanations (ISO 6520 : 1982)
- EN 30042 : 1994
Arc-welded joints in aluminium and its weldable alloys – Guidance on quality levels for imperfections (ISO 10042 : 1992)
- EN ISO 6947 : 1997
Welds – Working positions – Definitions of angles of slope and rotation (ISO 6947 : 1993)
- CR 12187
Welding – Guidelines for a grouping system of materials for welding purposes
- ISO 857 : 1990
Welding, brazing and soldering processes – Vocabulary

3 Definitions

For the purposes of this standard, the definitions given in EN 287-1 apply.

4 Symbols and abbreviations

4.1 General

Where the full wording is not used, the following symbols and abbreviations shall be used when completing the test certificate in accordance with Annex A of EN 287-2 : 1992.

4.2 Test piece

- a nominal throat thickness ;
- BW butt weld ;
- D outside diameter of pipe ;
- FW fillet weld ;
- P plate ;
- t plate or pipe wall thickness ;
- T pipe ;
- z leg length of fillet weld.

4.3 Consumables

- nm no filler metal ;
- wm with filler metal.

4.4 Miscellaneous

- bs welding from both sides ;
- gg back grinding or back milling of welds ;
- mb welding with backing material ;
- nb welding without backing ;
- ng no back grinding or back milling ;
- ss single-side welding