

**Metallide keevitusprotseduuride
spetsifitseerimine ja atesteerimine.
Keevitusprotseduuri katse. Osa 11:
Elektron- ja laserkeevitus**

Specification and qualification of welding
procedures for metallic materials - Welding
procedure test - Part 11: Electron and laser beam
welding

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15614-11:2002 sisaldab Euroopa standardi EN ISO 15614-11:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 06.08.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 15614-11:2002 consists of the English text of the European standard EN ISO 15614-11:2002. This document is endorsed on 06.08.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.
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Käsitlusala: This standard specifies how a welding procedure specification for electron or laser beam welding is qualified by welding procedure test.	Scope: This standard specifies how a welding procedure specification for electron or laser beam welding is qualified by welding procedure test.
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Võtmesõnad: approval, definition, definitions, electric welding, instructions, laser beam welding, metallic materials, metals, specification (approval), specifications, welding, welding engineering, welding procedure specification, welding processes

English version

Specification and qualification of welding procedures
for metallic materials – Welding procedure test

Part 11: Electron and laser beam welding
(ISO 15614-11 : 2002)

Descriptif et qualification d'un mode
opérateur de soudage pour les
matériaux métalliques – Epreuve de
qualification d'un mode opératoire –
Partie 11: Soudage par faisceau
d'électrons et par faisceau laser
(ISO 15614-11 : 2002)

Anforderung und Qualifizierung von
Schweißverfahren für metallische
Werkstoffe – Schweißverfahrens-
prüfung – Teil 11: Elektronen- und
Laserstrahlschweißen
(ISO 15614-11 : 2002)

This European Standard was approved by CEN on 2001-05-02.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre 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 Management Centre 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, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

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Foreword

This document (EN ISO 15614-11:2002) 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 September 2002, and conflicting national standards shall be withdrawn at the latest by September 2002.

This document 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).

Annex A is informative. Annex ZA is normative.

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, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

Qualification of welding procedures serves to demonstrate that production operations fully comply with the agreed welding procedure including preliminary and subsequent treatment.

Before a particular welding procedure is used in a production operation, the manufacturer should determine and document the suitability of the Welding Procedure Specification (WPS) to produce a weld of the required quality.

To date the suitability of welding procedures has been established for weldments as part of the quality assurance activity. Until now, establishing the suitability of welding procedures by weld procedure testing was carried out and documented only for weldments involving safety and the public interest. The European harmonization of the provision for welding procedure tests is currently being sought by means of European Standards. In this way greater confidence will be generated for the customer by the manufacturer.

The proofs also serve as the basis for the mutual recognition of performance reached by the relevant authorities. In this standard, the term "welding procedure" comprises all the activities which influence the welding result, such as preparation, welding parameters, post treatment and reworking.

1 Scope

This European Standard specifies how a welding procedure specification for electron or laser beam welding is qualified by a welding procedure test.

This standard is a part of a series of standards, details of this series are given in prEN ISO 15607, annex A.

It defines the conditions for the execution of welding procedure qualification tests and the limits of validity of a qualified welding procedure for all practical welding operations within the range of variables listed in clause 8.

Tests shall be carried out in accordance with this standard together with additional tests when specified.

This standard applies to metallic materials, irrespective of the shape of the parts, their thicknesses, manufacturing method (rolling, forging, casting, sintering, etc.) and their heat treatment. It covers unlimitedly the production of new parts and repair work.

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 (including amendments).

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 1043-2, *Destructive test on welds in metallic materials — Hardness test — Part 2: Micro hardness testing on welded joints.*

EN 1290, *Non-destructive examination of welds — Magnetic particle examination of welds.*

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 1714, *Non destructive examination of welds — Ultrasonic examination of welded joints.*

EN ISO 6947, *Welds — Working positions — Definitions of angles of slope and rotation (ISO 6947:1993).*

prEN ISO 15607, *Specification and approval of welding procedures for metallic materials — General rules (ISO/DIS 15607:2000).*

prEN ISO 15609-3:2000, *Specification and approval of welding procedures for metallic materials - Welding procedure specification — Part 3: Electron beam welding (ISO/DIS 15609-3:2000).*

prEN ISO 15609-4:2000, *Specification and approval of welding procedures for metallic materials - Welding procedure specification — Part 4: Laser beam welding (ISO/DIS 15609-4:2000).*

EN ISO 13919-1, *Welding — Electrons and laser beam welded joints — Guidance on quality levels for imperfections — Part 1: Steel (ISO 13919-1:1996).*

prEN ISO 13919-2, *Welding — Electron and laser beam welded joints — Guidance on quality levels for imperfections — Part 2: Aluminium and its weldable alloys (ISO/FDIS 13919-2:1999).*