Metallide keevitusprotseduuride spetsifitseerimine ja atesteerimine. Keevitusprotseduuri katse. Osa 7: Pindkeevitus

Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 7: Overlay welding



EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 15614-7:2007 sisaldab Euroopa standardi EN ISO 15614-7:2007 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 15614-7:2007 consists of the English text of the European standard EN ISO 15614-7:2007.
Käesolev dokument on jõustatud 21.08.2007 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 21.08.2007 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.
Käsitlusala:	Scope:
This part of ISO 15614 specifies how a	This part of ISO 15614 specifies how a
preliminary welding procedure	preliminary welding procedure
specification for overlay welding is	specification for overlay welding is
qualified by weiding procedure tests. This	qualified by weiging procedure tests. This
for carrying out welding procedure tests	for carrying out welding procedure tests
and the range of qualification for welding	and the range of gualification for welding
procedures for all practical welding	procedures for all practical welding
operations within the range of variables	operations within the range of variables
listed in Clause 8. Additional tests may be	listed in Clause 8. Additional tests may be
required by application standards. This	required by application standards. This
processes suitable for overlay welding	processes suitable for overlay welding

ICS 25.160.10

Võtmesõnad:

Eesti Standardikeskusele kuulub standardite reprodutseerimis- ja levitamisõigus

EUROPEAN STANDARD NORME EUROPÉENNE **EUROPÄISCHE NORM**

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English Version

Specification and qualification of welding procedures for metallic materials - Welding procedure test - Part 7: Overlay welding (ISO 15614-7:2007)

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques - Épreuve de qualification d'un mode opératoire de soudage - Partie 7: Rechargement par soudage (ISO 15614-7:2007)

Anforderungen und Qualifizierung von Schweißverfahren für metallische Werkstoffe - Schweißverfahrensprüfung -Teil 7: Auftragschweißen (ISO 15614-7:2007)

This European Standard was approved by CEN on 21 May 2007.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

Foreword

This document (EN ISO 15614-7:2007) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DIN, 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 December 2007, and conflicting national standards shall be withdrawn at the latest by December 2007.

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).

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

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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ANNEX ZA

(informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 97/23/EC

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one means of conforming to Essential Requirements of the New Approach Directive 97/23/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this International Standard and Directive 97/23/EC

Clause(s)/sub-clause(s) of this International Standard	Essential Requirements (ERs) of Directive 97/23/EC	Qualifying remarks/Notes
Normative Clauses 3 to 9	Annex I, 3.1.2	Permanent joining

WARNING: Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 15614-7

First edition 2007-06-15

S S S S S S Specification and qualification of welding procedures for metallic materials -Welding procedure test —

Part 7: **Overlay welding**

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques — Épreuve de qualification d'un mode opératoire gemen de soudage ---

Partie 7: Rechargement par soudage

Reference number ISO 15614-7:2007(E)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 15614-7 was prepared by the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding*, in collaboration with Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

ISO 15614 consists of the following parts, under the general title *Specification and qualification of welding procedures for metallic materials* — *Welding procedure test:*

- Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys
- Part 2: Arc welding of aluminium and its alloys
- Part 3: Fusion and pressure welding of non-alloyed and low-alloyed cast irons
- Part 4: Finishing welding of aluminium castings
- Part 5: Arc welding of titanium, zirconium and their alloys
- Part 6: Arc and gas welding of copper and its alloys
- Part 7: Overlay welding
- Part 8: Welding of tubes to tube-plate joints
- Part 10: Hyperbaric dry welding
- Part 11: Electron and laser beam welding
- Part 12: Spot, seam and projection welding
- Part 13: Resistance butt and flash welding

Requests for official interpretations of any aspect of this part of ISO 15614 should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body. A complete listing of these bodies can be found at <u>www.iso.org</u>.

Introduction

This part of ISO 15614 is part of a series of standards. Details of this series are given in ISO 15607:2003, Annex A.

gual. In a number of the second Previous procedure qualifications to former national standards or specifications should be taken into consideration at the time of the enquiry or contract stage and agreed between the contracting parties.

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

Part 7: Overlay welding

1 Scope

This part of ISO 15614 specifies how a preliminary welding procedure specification for overlay welding is qualified by welding procedure tests.

This part of ISO 15614 defines the conditions for carrying out welding procedure tests and the range of qualification for welding procedures for all practical welding operations within the range of variables listed in Clause 8.

Additional tests may be required by application standards.

This part of ISO 15614 applies to all welding processes suitable for overlay welding.

This part of ISO 15614 is applicable to all new welding procedures. However, it does not invalidate previous welding procedure tests made to former national standards or specifications. Where additional tests are carried out to make the qualification technically equivalent, they are only done on a test piece made in accordance with this part of ISO 15614.

This part of ISO 15614 does not apply to overlay welding where cracks are intentionally produced (e.g. special hardfacing applications).

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references the latest edition of the referenced document (including any amendments) applies.

ISO 3452, Non destructive testing — Penetrant inspection — General principles

ISO 5173, Destructive tests on welds in metallic materials — Bend tests

ISO 6947, Welds — Working positions — Definitions of angles of slope and rotation

ISO 9015-1, Destructive tests on welds in metallic materials — Hardness testing — Part 1: Hardness test on arc welded joints

ISO 14174, Welding consumables — Fluxes for submerged arc welding — Classification

ISO 14175, Welding consumables — Shielding gases for arc welding and cutting

ISO/TR 15608, Welding — Guidelines for a metallic materials grouping system

ISO 15609-1, Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 1: Arc welding

ISO 15609-2, Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 2: Gas welding

ISO 15609-3, Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 3: Electron beam welding

ISO 15609-4, Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 4: Laser beam welding

ISO 15613, Specification and qualification of welding procedures for metallic materials — Qualification based on pre-production welding test

ISO 15614-1, Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 1: Arc and gas welding of steels and arc welding of nickel and nickel alloys

ISO 17637, Non-destructive testing of welds — Visual testing of fusion-welded joints

ISO 17639, Destructive tests on welds in metallic materials — Macroscopic and microscopic examination of welds

ISO 17640, Non-destructive testing of welds — Ultrasonic testing of welded joints

ISO/TR 25901¹⁾, Welding and related processes — Vocabulary

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/TR 25901 apply.

4 Preliminary welding procedure specification (pWPS)

4.1 Overlay welding

The pWPS shall be in accordance with ISO 15609-1, ISO 15609-3 and ISO 15609-4. It shall specify the tolerances for all the relevant parameters.

The welding procedure shall be qualified in accordance with Clauses 5 to 8.

4.2 Hardfacing

The pWPS shall be in accordance with ISO 15609-1, ISO 15609-2, ISO 15609-3 and ISO 15609-4. It shall specify the tolerances for all the relevant parameters.

The welding procedure shall be qualified in accordance with Clauses 5 to 8.

¹⁾ To be published (revision of CEN/TR 14599).