

**Specification and qualification of welding
procedures for metallic materials -
Qualification based on tested welding
consumables**

Specification and qualification of welding procedures
for metallic materials - Qualification based on tested
welding consumables

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15610:2004 sisaldab Euroopa standardi EN ISO 15610:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 20.02.2004 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 15610:2004 consists of the English text of the European standard EN ISO 15610:2003.</p> <p>This document is endorsed on 20.02.2004 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>
--	---

<p>Käsitlusala:</p> <p>This European Standard is a part of a series of standards, details of this series are given in EN ISO 15607:2003, annex A. This standard gives the necessary information to explain the requirements referenced in EN ISO 15607:2003 about the qualification of welding procedures based on tested consumables. In addition, it gives the range of qualification. This European Standard applies to arc and gas welding in accordance with Table 1.</p>	<p>Scope:</p> <p>This European Standard is a part of a series of standards, details of this series are given in EN ISO 15607:2003, annex A. This standard gives the necessary information to explain the requirements referenced in EN ISO 15607:2003 about the qualification of welding procedures based on tested consumables. In addition, it gives the range of qualification. This European Standard applies to arc and gas welding in accordance with Table 1.</p>
---	---

ICS 25.160.10

Võtmesõnad: arc weldin, fusion welding, inserts, instructions, materials, metal welding, metallic materials, metals, quality assurance, specification (approval), specifications, testing, testing conditions, welding, welding engineering, welding filler metals, welding processes

English version

**Specification and qualification of welding procedures
for metallic materials**

Qualification based on tested welding consumables
(ISO 15610 : 2003)

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques – Qualification basée sur des produits consommables soumis à essais (ISO 15610 : 2003)

Anforderung und Qualifizierung von Schweißverfahren für metallische Werkstoffe – Qualifizierung aufgrund des Einsatzes von geprüften Schweißzusätzen (ISO 15610 : 2003)

This European Standard was approved by CEN on 2003-05-07.

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 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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, the Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

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

Contents

	Page
Foreword.....	2
Introduction.....	3
1 Scope.....	3
2 Normative references.....	4
3 Terms and definitions.....	4
4 Preliminary welding procedure specifications (pWPS).....	4
5 Qualification of the welding procedure.....	4
6 Range of qualification.....	4
7 Validity.....	6
8 Welding Procedure Qualification Record (WPQR).....	6
Bibliography.....	6

Foreword

This document (EN ISO 15610:2003) has been prepared by Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS, in collaboration with ISO/TC 44 "Welding and allied processes".

This European Standard EN ISO 15610:2003 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2004, and conflicting national standards shall be withdrawn at the latest by March 2004.

This document supersedes EN 288-5:1994.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

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, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Introduction

In EN ISO 15607, one of the methods of welding procedure qualification is based on tested welding consumables.

This European Standard is a part of a series of standards, details of this series are given in EN ISO 15607:2003, annex A.

1 Scope

This standard gives the necessary information to explain the requirements referenced in EN ISO 15607:2003 about the qualification of welding procedures based on tested consumables.

In addition, it gives the range of qualification.

This European Standard applies to arc and gas welding in accordance with Table 1.

Table 1 — Applicable welding processes

Process number according to EN ISO 4063	Welding process	Process applicable for alloys based on steel	Process applicable for alloys based on aluminium
111	Manual metal arc welding (metal arc welding with covered electrode)	X	-
114	Self-shielded tubular-cored arc welding	X	-
131	Metal inert gas welding ; MIG welding	X	X
135	Metal active gas welding ; MAG welding	X	-
136	Tubular cored metal arc welding with active gas shield	X	-
137	Tubular cored metal arc welding with inert gas shield	X	-
141	Tungsten inert gas welding ; TIG welding	X	X
15	Plasma arc welding	X	X
3	Gas welding	X	-
NOTE X indicates the process for which EN ISO 15610 is applicable and - indicates the process for which the standard is not applicable.			

Other fusion welding processes may be accepted if specified.

This standard is limited to application to parent metals which produce acceptable micro structures and properties in the heat affected zone which do not deteriorate significantly in service.

This standard is not applicable where requirements for hardness or impact properties, preheating, controlled heat input, interpass temperature and post-weld heat-treatment are specified for the welded joint.

The use of this standard may also be restricted by an application standard or a specification.

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 ISO 4063, *Welding and allied processes - Nomenclature of processes and reference numbers* (ISO 4063:1998).

EN ISO 15607:2003, *Specification and qualification of welding procedures for metallic materials - General rules* (ISO 15607:2003).

CR ISO 15608, *Welding - Guidelines for a metallic material grouping system* (ISO/TR 15608:2000).

prEN ISO 15609-1, *Specification and approval of welding procedures for metallic materials - Welding procedure specification - Part 1: Arc welding* (ISO/DIS 15609-1:2000).

EN ISO 15609-2, *Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 2: Gas welding* (ISO 15609-2:2001).

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 15607:2003 apply.

4 Preliminary welding procedure specifications (pWPS)

The qualification of a welding procedure based on tested welding consumables shall be based on a pWPS according to prEN ISO 15609-1 or EN ISO 15609-2. This pWPS shall specify the range for all the relevant parameters.

5 Qualification of the welding procedure

The essential items for the qualification are:

- specifications of parent metal(s) to be used;
- welding conditions specified by the manufacturer of the tested welding consumables as shown in the manufacturer's published literature;
- a specific pWPS to be selected according to prEN ISO 15609-1 or EN ISO 15609-2 and suitable for the application.

6 Range of qualification

6.1 General

All the conditions of qualification stated below shall be met independently of each other.