

**Quality requirements for welding -
Resistance welding of metallic
materials - Part 1: Comprehensive
quality requirements**

Quality requirements for welding - Resistance
welding of metallic materials - Part 1:
Comprehensive quality requirements

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 14554-1:2000 sisaldab Euroopa standardi EN ISO 14554-1:2000 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 12.09.2000 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 14554-1:2000 consists of the English text of the European standard EN ISO 14554-1:2000.</p> <p>This document is endorsed on 12.09.2000 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 standard has been prepared such that: - it is independent of the type of welded construction to be manufactured; - it defines quality requirements for welding both in production plants and on site; - it provides guidance for describing a manufacturers capability to produce welded constructions to meet specified requirements; - it may also be used as a basis for assessing the manufacturer in respect to his welding capability.</p>	<p>Scope:</p> <p>This standard has been prepared such that: - it is independent of the type of welded construction to be manufactured; - it defines quality requirements for welding both in production plants and on site; - it provides guidance for describing a manufacturers capability to produce welded constructions to meet specified requirements; - it may also be used as a basis for assessing the manufacturer in respect to his welding capability.</p>
---	---

ICS 25.160.10

Võtmesõnad:

English version

Quality requirements for welding –
Resistance welding of metallic materials

Part 1: Comprehensive quality requirements
(ISO 14554-1 : 2000)

Exigences de qualité en soudage –
Soudage par résistance des
matériaux métalliques – Partie 1:
Exigences de qualité complète
(ISO 14554-1 : 2000)

Schweißtechnische Qualitätsan-
forderungen – Widerstandsschweißen
metallischer Werkstoffe – Teil 1:
Umfassende Qualitätsanforderungen
(ISO 14554-1 : 2000)

This European Standard was approved by CEN on 2000-01-03.

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

Contents

	Page
Foreword	2
1 Scope	3
2 Normative references	3
3 Terms and definitions	4
4 Contract and design review	4
5 Sub-contracting	5
6 Welding personnel	6
7 Inspection, testing and examination personnel	6
8 Equipment	6
9 Welding activities	8
10 Welding electrodes and auxiliaries	8
11 Storage of parent metal	9
12 Heat treatment	9
13 Weld related inspection and testing	9
14 Non-conformance and corrective action	10
15 Calibration	10
16 Identification and traceability	11
17 Quality records	11
Annex A (informative) Summary comparison of welding quality requirements with regard to EN ISO 14554-1 and EN ISO 14554-2	12
Annex ZA (informative) Bibliography	13

Foreword

The text of EN ISO 14554-1:2000 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 2000, and conflicting national standards shall be withdrawn at the latest by October 2000.

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.

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association. This European Standard is considered to be a supporting standard to those application and product standards which in themselves support an essential safety requirement of a New Approach Directive and which make reference to this European Standard.

Annexe A is informative.

1 Scope

This standard has been prepared such that:

- it is independent of the type of welded construction to be manufactured;
- it defines quality requirements for welding both in production plants and on site;
- it provides guidance for describing a manufacturer's capability to produce welded constructions to meet specified requirements;
- it can also be used as a basis for assessing the manufacturer in respect to his welding capability.

This standard is appropriate when demonstration of a manufacturer's or a sub-contractor's capability to produce welded constructions, fulfilling specified quality requirements, are specified in one or more of the following:

- a contract between involved parties;
- an application standard;
- a regulatory requirement.

The requirements contained within this standard can be adopted in full or can be selectively deleted by the manufacturer if not applicable to the construction concerned. They provide a flexible framework for the control of welding in the following cases:

– Case 1

To provide specific requirements for resistance welding in contracts which require the manufacturer or sub-contractor to have a quality system in accordance with EN ISO 9001 or EN ISO 9002.

– Case 2

To provide specific requirements for resistance welding in contracts which require the manufacturer or sub-contractor to have a quality system other than EN ISO 9001 or EN ISO 9002.

– Case 3

To provide specific requirements for resistance welding as guidance to a manufacturer or sub-contractor developing a quality system.

– Case 4

To provide specific requirements for references in application standards which uses resistance welding as part of its requirements or in a contract between relevant parties. It is however more appropriate for EN ISO 14554-2 to be used in such cases.

For general guidelines for selection and use see EN 729-1 with the exception of Annex B and under consideration that for resistance welding only comprehensive and elementary quality requirements are specified. Annex A in this standard applies for resistance welding.

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 719:1994

Welding coordination – Tasks and responsibilities

EN 729-1

Quality requirements for welding – Fusion welding of metallic materials – Part 1: Guidelines for selection and use

EN 1418

Welding personnel – Approval testing of welding operators for fusion welding and resistance weld setters for fully mechanized and automatic welding of metallic materials

EN ISO 9001

Quality systems – Model for quality assurance in design, development, production, installation and servicing (ISO 9001 : 1994)

EN ISO 9002

Quality systems – Model for quality assurance in production, installation and servicing (ISO 9002:1994)

EN ISO 14554-2

Quality requirements for welding – Resistance welding of metallic materials – Part 2: Elementary quality requirements (ISO 14554-2:2000)

ISO 5182

Welding – Materials for resistance welding electrodes and ancillary equipment

ISO 5184

Straight resistance spot welding electrodes

3 Terms and definitions

For the purposes of this standard terms and definitions listed in EN 729-1 apply

4 Contract and design review

4.1 General

The manufacturer shall review the contractual requirements and the design data provided by the purchaser or in-house data for construction designed by the manufacturer. This is to ensure that all information necessary to carry out the fabrication operations is available prior to the commencement of the work. The manufacturer shall affirm his capability to meet all welding contract requirements and ensure adequate planning of all quality related activities.

Contract review is carried out by the manufacturer to verify that the contract is within his capability to perform, that sufficient resources are available to achieve delivery schedules and that documentation is clear and unambiguous. The manufacturer should ensure any variations between the contract and previous tender documentation are identified and the purchaser notified of any programme, cost or engineering changes that may result.

The items in 4.2 are typically considered at or before the time of the contract review. The items in 4.3 usually form part of the design review and should be taken into account during the contract review if the design is not carried out by the manufacturer. It shall be ensured that all relevant information has been supplied by the purchaser.

When a contract does not exist, e.g. items made for stock, the manufacturer is required to take into consideration the requirements of 4.2 whilst carrying out his design review (see 4.3).

4.2 Application – Contract review

Contractual requirements to be considered should include:

a) the application standard to be used, together with any supplementary requirements;