



SLOVENSKI STANDARD
SIST EN ISO 5817:2004
01-junij-2004

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SIST EN 25817:1996

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Welding - Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) - Quality levels for imperfections (ISO 5817:2003)

Schweißen - Schmelzschweißverbindungen an Stahl, Nickel, Titan und deren Legierungen (ohne Strahlschweißen) - Bewertungsgruppen von Unregelmäßigkeiten (ISO 5817:2003)

[SIST EN ISO 5817:2004](#)

Soudage - Assemblages en acier, nickel, titane et leurs alliages soudés par fusion (soudage par faisceau haute énergie exclu) - Niveaux de qualité par rapport aux défauts (ISO 5817:2003)

Ta slovenski standard je istoveten z: EN ISO 5817:2003

ICS:

25.160.40 Varjeni spoji in vari Welded joints

SIST EN ISO 5817:2004 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 5817

October 2003

ICS 25.160.40

Supersedes EN 25817:1992

English version

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This European Standard was approved by CEN on 1 September 2003.

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.

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 Management Centre has the same status as the official versions.

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

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

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

EN ISO 5817:2003 (E)

CORRECTED 2004-03-10

Foreword

This document (EN ISO 5817:2003) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding", the secretariat of which is held by DS.

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 April 2004, and conflicting national standards shall be withdrawn at the latest by April 2004.

This document supersedes EN 25817:1992.

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 ZB, 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of ISO 5817:2003 has been approved by CEN as EN ISO 5817:2003 without any modifications.

NOTE Normative references to International Standards are listed in Annex ZA (normative).

Annex ZA
(normative)

**Normative references to international publications
with their relevant European publications**

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).

NOTE Where an International Publication has been modified by common modifications, indicated by (mod.), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN</u>	<u>Year</u>
ISO 2553	1992	Welded, brazed and soldered joints - Symbolic representation on drawings	EN 22553	1994
ISO 6520-1	1998	Welding and allied processes - Classification of geometric imperfections in metallic materials - Part 1: Fusion welding	EN ISO 6520-1	998

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EN ISO 5817:2003 (E)

Annex ZB (informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives.

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 97/23/EEC of the European Parliament and of the Council of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment.

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

The following clauses of this standard as detailed in Table ZB.1, are likely to support requirements of the Directive 97/23/EEC.

Compliance with these clauses of this standard provides one means of conforming with the specific essential requirements of the Directive concerned and associated EFTA regulations.

Table ZB.1 — Correspondence between this European Standards and Directive 97/23/EEC

Clauses/sub-clauses of this European Standard	Essential requirements of Directive 97/23/EEC	Qualifying remarks/Notes
5	Anhang I, 3.1.1, 3.1.2	Assessment of imperfections

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INTERNATIONAL STANDARD

ISO 5817

Second edition
2003-10-01

Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections

*Soudage — Assemblages en acier, nickel, titane et leurs alliages
soudés par fusion (soudage par faisceau exclu) — Niveaux de qualité
par rapport aux défauts*

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Reference number
ISO 5817:2003(E)

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ISO 5817:2003(E)

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 5817 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

This second edition cancels and replaces the first edition (ISO 5817:1992), which has been technically revised.

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Introduction

This International Standard should be used as a reference in the drafting of application codes and/or other application standards. It contains a simplified selection of fusion weld imperfections based on the designations given in ISO 6520-1.

Some of the imperfections described in ISO 6520-1 have been used directly and some have been grouped together. The basic numerical referencing system from ISO 6520-1 has been used.

The purpose of this International Standard is to define dimensions of typical imperfections which might be expected in normal fabrication. It may be used within a quality system for the production of factory-welded joints. It provides three sets of dimensional values from which a selection can be made for a particular application. The quality level necessary in each case should be defined by the application standard or the responsible designer in conjunction with the manufacturer, user and/or other parties concerned. The level shall be prescribed before the start of production, preferably at the enquiry or order stage. For special purposes, additional details may be prescribed.

The quality levels given in this International Standard provide basic reference data and are not specifically related to any particular application. They refer to the types of welded joint in a fabricated structure and not to the complete product or component itself. It is possible, therefore, that different quality levels be applied to individual welded joints in the same product or component.

It would normally be expected that for a particular welded joint the dimensional limits for imperfections could all be covered by specifying one quality level. In some cases, it may be necessary to specify different quality levels for different imperfections in the same welded joint.

The choice of quality level for any application should take account of design considerations, subsequent processing (e.g. surfacing), mode of stressing (e.g. static, dynamic), service conditions (e.g. temperature, environment) and consequences of failure. Economic factors are also important and should include not only the cost of welding but also of inspection, test and repair.

Although this International Standard includes types of imperfection relevant to the fusion welding processes listed in Clause 1, only those which are applicable to the process and application in question need to be considered.

Imperfections are quoted in terms of their actual dimensions, and their detection and evaluation may require the use of one or more methods of non-destructive testing. The detection and sizing of imperfections is dependent on the inspection methods and the extent of testing specified in the application standard or contract.

The need for detecting imperfections is not subject of this International Standard. However, ISO 17635 contains a correlation between the quality level and acceptance level for different NDT methods.

This International Standard is directly applicable to visual testing of welds and does not include details of recommended methods of detection or sizing by non-destructive means. It should be considered that there are difficulties in using these limits to establish appropriate criteria applicable to non-destructive testing methods such as ultrasonic, radiographic, eddy current, penetrate, magnetic particle testing and may need to be supplemented by requirements for inspection, examining and testing.

The values for imperfections take into consideration normal welding practice. Higher specifications require additional manufacturing processes, e.g. grinding or welding under stringent laboratory conditions or special welding processes.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body. For a complete listing consult www.iso.org.

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