SLOVENSKI STANDARD
SIST EN ISO 12932:2013

01-september-2013

Varjenje - Obločno hibridno varjenje jekel, niklja in nikljevih zlitin z laserjem - Stopnje sprejemljivosti napak (ISO 12932:2013)

Welding - Laser-arc hybrid welding of steels, nickel and nickel alloys - Quality levels for imperfections (ISO 12932:2013)

Schweißen - Laserstrahl-Lichtbogen-Hybridschweißen von Stählen, Nickel und Nickellegierungen - Bewertungsgruppen für Unregelmäßigkeiten (ISO 12932:2013)

Soudage - Soudage hybride laser-arc des aciers au nickel et aux alliages de nickel - Niveaux de qualité par rapport aux défauts (ISO 12932:2013)

Ta slovenski standard je istoveten z: **EN ISO 12932:2013**

ICS:

25.160.10	Varilni postopki in varjenje	Welding processes
77.080.20	Jekla	Steels
77.120.40	Nikelj, krom in njune zlitine	Nickel, chromium and their alloys

SIST EN ISO 12932:2013 **en,fr**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 12932

June 2013

ICS 25.160.40

English Version

Welding - Laser-arc hybrid welding of steels, nickel and nickel alloys - Quality levels for imperfections (ISO 12932:2013)

Soudage - Soudage hybride laser-arc des aciers, du nickel et des alliages de nickel - Niveaux de qualité par rapport aux défauts (ISO 12932:2013)

Schweißen - Laserstrahl-Lichtbogen-Hybridschweißen von Stählen, Nickel und Nickellegierungen - Bewertungsgruppen für Unregelmäßigkeiten (ISO 12932:2013)

This European Standard was approved by CEN on 1 March 2013.

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

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Contents

Page

Foreword

This document (EN ISO 12932:2013) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 “Welding and allied processes” the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by December 2013, and conflicting national standards shall be withdrawn at the latest by December 2013.

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

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Endorsement notice

The text of ISO 12932:2013 has been approved by CEN as EN ISO 12932:2013 without any modification.

INTERNATIONAL STANDARD

ISO 12932

First edition
2013-06-15

Welding — Laser-arc hybrid welding of steels, nickel and nickel alloys — Quality levels for imperfections

Soudage — Soudage hybride laser-arc des aciers, du nickel et des alliages de nickel — Niveaux de qualité par rapport aux défauts

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Contents

Page

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 12932 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

Requests for official interpretation of any aspect of this International Standard 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 www.iso.org.

Introduction

This International Standard is intended to be used as a reference in drafting application codes and/or other application standards. It contains a simplified selection of laser-arc hybrid welding imperfections based on the designations given in ISO 6520-1.

Some 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 the dimensions of typical imperfections which can be expected in normal fabrication. It can be used within a quality system for the production of 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 is defined by the application standard or the responsible designer in conjunction with the manufacturer, user and/or other parties concerned. The quality level is expected to be prescribed prior to the start of production, preferably at the enquiry or order stage. For special purposes, additional details can 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 fabrication and not to the complete product or component itself. It is possible, therefore, that different quality levels are 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 can all be covered by specifying one quality level. In some cases, it can be necessary to specify different quality levels for different imperfections in the same welded joint.

The choice of quality level for any application is expected to 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 are intended to 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 laser-arc hybrid welding processes given 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 are dependent on the inspection methods and the extent of testing specified in the application standard or contract.

This International Standard does not address the methods used for the detection of imperfections. 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 examination of welds and does not include details of recommended methods of detection or sizing by other non-destructive means. There are difficulties in using these limits to establish appropriate criteria applicable to non-destructive testing methods, such as ultrasonic, radiographic and penetrant testing, and they can need to be supplemented by requirements for inspection, examination and testing.

The values given for imperfections are for welds produced using normal welding practice. More stringent requirements as stated in quality level B can include additional manufacturing processes, e.g. grinding, TIG dressing.