



SLOVENSKI STANDARD SIST EN ISO 22825:2012

01-september-2012

Nadomešča:
SIST EN ISO 22825:2007

Neporušitveno preskušanje zvarnih spojev - Ultrazvočno preskušanje - Preskušanje zvarnih spojev iz avstenitnih jekel in nikljevih zlitin (ISO 22825:2012)

Non-destructive testing of welds - Ultrasonic testing - Testing of welds in austenitic steels and nickel-based alloys (ISO 22825:2012)

Zerstörungsfreie Prüfung von Schweißverbindungen - Ultraschallprüfung - Prüfung von Schweißverbindungen aus austenitischem Stahl und Nickellegierungen (ISO 22825:2012)

[SIST EN ISO 22825:2012](#)

Essais non destructifs des assemblages soudés - Contrôle par ultrasons - Contrôle des soudures en aciers austénitiques et en alliages à base nickel (ISO 22825:2012)

Ta slovenski standard je istoveten z: **EN ISO 22825:2012**

ICS:

25.160.40 Varjeni spoji in vari Welded joints

SIST EN ISO 22825:2012 en,fr

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 22825

May 2012

ICS 25.160.40

Supersedes EN ISO 22825:2006

English Version

Non-destructive testing of welds - Ultrasonic testing - Testing of welds in austenitic steels and nickel-based alloys (ISO 22825:2012)

Contrôle non destructif des assemblages soudés - Contrôle par ultrasons - Contrôle des soudures en aciers austénitiques et en alliages à base nickel (ISO 22825:2012)

Zerstörungsfreie Prüfung von Schweißverbindungen - Ultraschallprüfung - Prüfung von Schweißverbindungen aus austenitischem Stahl und Nickellegierungen (ISO 22825:2012)

This European Standard was approved by CEN on 3 May 2012.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, 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, Turkey and United Kingdom.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN ISO 22825:2012) 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 November 2012, and conflicting national standards shall be withdrawn at the latest by November 2012.

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.

This document supersedes EN ISO 22825:2006.

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, Croatia, 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, Turkey and the United Kingdom.

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INTERNATIONAL STANDARD

ISO
22825

Second edition
2012-05-15

Non-destructive testing of welds — Ultrasonic testing — Testing of welds in austenitic steels and nickel-based alloys

*Contrôle non destructif des assemblages soudés — Contrôle par
ultrasons — Contrôle des soudures en aciers austénitiques et en
alliages à base nickel*

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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ISO 22825:2012(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 22825 was prepared by the European Committee for Standardization (CEN) Technical Committee TC 121, *Welding*, Sub-committee SC 5, *Testing of welds*, in collaboration with Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 5, *Testing and inspection of welds*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 22825:2006), which has been technically revised.

The main changes are the addition of annexes on:

- compression wave angle beam techniques;
- stainless steel calibration blocks for range setting;
- examples of reference blocks.

Requests for official interpretations of any aspect of this International Standard should be directed to the Secretariat of ISO/TC 44/SC 5 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

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Introduction

Welds in austenitic steel components and dissimilar metal welds are widely regarded as very difficult to inspect by ultrasound. The problems are mainly associated with unfavourable structure and grain size, as well as with different material properties which result in inhomogeneous and anisotropic mechanical and acoustic properties that contrast with the relatively homogeneous and isotropic behaviour in low-alloy steel welds.

Austenitic weld metal and other coarse-grained, anisotropic materials can significantly affect ultrasound propagation. In addition, beam distortion, unexpected reflections and wave mode conversions on the fusion line and/or columnar grains can occur. Therefore it can be difficult and sometimes impossible for ultrasonic waves to penetrate the weld metal.

Ultrasonic testing of these metals may require techniques that differ from conventional techniques. These special techniques often include the use of dual-element probes designed for refracted compression (longitudinal) waves or creeping waves rather than for conventional shear waves.

In addition, it is necessary to produce representative reference blocks with welds in order to develop a testing procedure, set a preliminary sensitivity level, assess the procedure and demonstrate effectiveness before a definitive procedure is written. Material, weld preparation and welding procedure, as well as the geometry and surface condition of reference blocks are the same as for the component being tested.

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