



**SLOVENSKI STANDARD
SIST EN ISO 28319:2010**

01-oktober-2010

Zobozdravstvo - Varjenje z laserjem (ISO 28319:2010)

Dentistry - Laser welding (ISO 28319:2010)

Zahnheilkunde - Eignung von metallischen Werkstoffen zum Laserschweißen (ISO 28319:2010)

Art dentaire - Soudage par laser (ISO 28319:2010)

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ICS:

11.060.10 Zobotehnični materiali Dental materials

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 28319

May 2010

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English Version

Dentistry - Laser welding (ISO 28319:2010)

Médecine bucco-dentaire - Soudage par laser (ISO 28319:2010)

Zahnheilkunde - Laserschweißen (ISO 28319:2010)

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Management Centre: Avenue Marnix 17, B-1000 Brussels

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Foreword

This document (EN ISO 28319:2010) has been prepared by Technical Committee ISO/TC 106 "Dentistry" in collaboration with Technical Committee CEN/TC 55 "Dentistry" 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of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

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INTERNATIONAL STANDARD

ISO
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First edition
2010-05-15

Dentistry — Laser welding

Médecine bucco-dentaire — Soudage par laser

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
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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 28319 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 2, *Prosthetic materials*.

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Dentistry — Laser welding

1 Scope

This International Standard specifies requirements and test methods for laser welding, in the dental laboratory, of materials suitable for use in metallic restorations and appliances.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 1942, *Dentistry — Vocabulary*

ISO 3585, *Borosilicate glass 3.3 — Properties*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 6344-1, *Coated abrasives — Grain size analysis — Part 1: Grain size distribution test*

ISO 10271, *Dental metallic materials — Corrosion test methods*

ISO 22674:2006, *Dentistry — Metallic materials for fixed and removable dental restorations and appliances*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 1942, ISO 22674 and the following apply.

3.1

laser welding

method for joining similar or dissimilar metallic materials, using a laser beam as heat source, with or without a metallic filler material (welding rod), which produces coalescence by melting the metallic materials in order to join them by creating a fusion zone

3.2

brazing

method for joining similar or dissimilar metallic materials by applying heat and using a metallic brazing material as filler

NOTE 1 The brazing materials used have liquidus temperatures above 450 °C, but below the melting range of the metallic materials being joined. They flow by capillary action into the gap between the metallic base materials and join them by creating a metallurgical bond.

NOTE 2 Brazing differs from welding in that brazing does not melt the metallic base materials.