Irish Standard
I.S. EN ISO 28319:2010

Dentistry - Laser welding (ISO 28319:2010)

I.S. EN ISO 28319:2010

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EUROPEAN STANDARD

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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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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of an identical text or by endorsement, at the latest by November 2010, and conflicting national standards shall be withdrawn at the latest by November 2010.

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The text of ISO 28319:2010 has been approved by CEN as a EN ISO 28319:2010 without any modification.

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I.S. EN ISO 28319:2010

INTERNATIONAL STANDARD

ISO 28319

First edition
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Dentistry — Laser welding

Médecine bucco-dentaire — Soudage par laser

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Foreword

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ISO 28319 was prepared by Technical Committee ISO/TC 106, *Dentistry*, Subcommittee SC 2, *Prosthodontic materials*.

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.