



SLOVENSKI STANDARD
SIST EN ISO 17526:2003
01-november-2003

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Optics and optical instruments - Lasers and laser-related equipment - Lifetime of lasers
 (ISO 17526:2003)

Optik und optische Instrumente - Laser und Laseranlagen - Lebensdauer von Lasern
 (ISO 17526:2003)

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Optique et instruments d'optique - Lasers et équipements associés aux lasers - Durée de
 vie des lasers (ISO 17526:2003)

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Ta slovenski standard je istoveten z: EN ISO 17526:2003

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment
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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 17526

June 2003

ICS 31.260

English version

Optics and optical instruments - Lasers and laser-related equipment - Lifetime of lasers (ISO 17526:2003)

Optique et instruments d'optique - Lasers et équipements associés aux lasers - Durée de vie des lasers (ISO 17526:2003)

Laser und Laseranlagen - Lebensdauer von Lasern (ISO 17526:2003)

This European Standard was approved by CEN on 20 May 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 17526:2003 (E)

CORRECTED 2003-07-16

Foreword

This document (EN ISO 17526:2003) has been prepared by Technical Committee ISO/TC 176 "Quality management and quality assurance" in collaboration with Technical Committee CEN/TC 123 "Lasers and laser-related equipment", 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 2003, and conflicting national standards shall be withdrawn at the latest by December 2003.

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 17526:2003 has been approved by CEN as EN ISO 17526:2003 without any modifications.

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

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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 11145	2001	Optics and optical instruments - Lasers and laser-related equipment - Vocabulary and symbols	EN ISO 11145	2001
ISO 11554	2003	Optics and optical instruments - Lasers and laser-related equipment - Test methods for laser beam power, energy and temporal characteristics	EN ISO 11554	2003

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INTERNATIONAL STANDARD

ISO
17526

First edition
2003-06-15

Optics and optical instruments — Lasers and laser-related equipment — Lifetime of lasers

*Optique et instruments d'optique — Lasers et équipements associés
aux lasers — Durée de vie des lasers*

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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 17526 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 9, *Electro-optical systems*.

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Introduction

There are many different types of lasers with very different attributes and very different areas of application; not all types of lasers can be treated by the same means and measures to characterize and specify their longterm behaviour and lifetime.

This International Standard covers many types of laser, but not all methods and procedures can be applied to all types.

There are lasers, primarily laser diodes in the lower power range, which are produced in large quantities and which allow the performance of lifetime tests on large quantities to gain results on a statistically significant level. In this case and if more than approximately 50 lasers are used for testing, lifetime predictions using informative annex B of IEC 61751:1998, may be applied alternatively to this International Standard.

High-power lasers are manufactured in low quantities and lifetime tests cannot be carried out on statistically significant sample sizes.

There are types of laser of which the main components cannot be repaired, e.g. sealed-tube gas lasers or semiconductor lasers. There are others that can easily be repaired, e.g. CO₂ lasers. The former class may be characterized by “lifetime”, the latter more appropriately characterized by “meantime to failure”.

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