



**SLOVENSKI STANDARD
SIST EN ISO 11670:2003**

01-september-2003

**BUXca Yý U
SIST EN ISO 11670:2000**

**Laserji in laserska oprema - Preskusne metode za parametre laserskega žarka -
Stabilnost položaja žarka (ISO 11670:2003)**

Lasers and laser-related equipment - Test methods for laser beam parameters - Beam
positional stability (ISO 11670:2003)

Laser und Laseranlagen - Prüfverfahren für Laserstrahlparameter - Strahllagestabilität
(ISO 11670:2003)

Lasers et équipements associés aux lasers - Méthodes d'essai des paramètres du
faisceau laser - Stabilité de visée du faisceau (ISO 11670:2003)

Ta slovenski standard je istoveten z: EN ISO 11670:2003

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment
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SIST EN ISO 11670:2003 en

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 11670

April 2003

ICS 31.260

Supersedes EN ISO 11670:1999

English version

Lasers and laser-related equipment - Test methods for laser beam parameters - Beam positional stability (ISO 11670:2003)

Lasers et équipements associés aux lasers - Méthodes d'essai des paramètres du faisceau laser - Stabilité de visée du faisceau (ISO 11670:2003)

Laser und Laseranlagen - Prüfverfahren für Laserstrahlparameter - Strahllagestabilität (ISO 11670:2003)

This European Standard was approved by CEN on 21 February 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 11670:2003 (E)

CORRECTED 2003-06-25

Foreword

This document (EN ISO 11670:2003) has been prepared by Technical Committee ISO/TC 172 "Optics and optical instruments" 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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

This document supersedes EN ISO 11670:1999.

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 11670:2003 has been approved by CEN as EN ISO 11670:2003 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 11146	1999	Lasers and laser-related equipment - Test methods for laser beam parameters - Beam widths, divergence angle and beam propagation factor	EN ISO 11146	1999

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INTERNATIONAL
STANDARD

ISO
11670

Second edition
2003-04-01

**Lasers and laser-related equipment —
Test methods for laser beam
parameters — Beam positional stability**

*Lasers et équipements associés aux lasers — Méthodes d'essai des
paramètres du faisceau laser — Stabilité de visée du faisceau*

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Reference number
ISO 11670:2003(E)

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Published in Switzerland

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ISO 11670:2003(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 11670 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 9, *Electro-optical systems*.

This second edition cancels and replaces the first edition (ISO 11670:1999), Clauses 3 and 9 of which have been technically revised. Annexes A and B have been added.

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Introduction

The centre of a laser beam is defined as the centroid or first-order spatial moment of the power density distribution. The current propagation axis of a beam is then the straight line connecting two centroids measured at two different planes simultaneously in a uniform, homogeneous medium. Beam axis instability may be characterized by transverse displacements and angular movements that are either monotonic, periodic or stochastic in time.

The movement of a laser beam may be randomly distributed and uniform in amplitude in all directions. In general, the beam may move a greater amount in one direction. If one direction predominates, the procedures specified in this International Standard can be used to identify that dominant direction (the beam x -axis) and its azimuthal location relative to the axes of the laboratory system.

This International Standard provides general principles for the measurement of these quantities. In addition, definitions of terminology and symbols to be used in referring to beam position are provided.

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