SLOVENSKI STANDARD
SIST EN ISO 11151-2:2000

01-november-2000

Laserji in laserska oprema - Standardne optiļne komponente - 2. del: Komponente za obmoļje infrardeļega spektra (ISO 11151-2:2000)

Lasers and laser-related equipment - Standard optical components - Part 2: Components for the infrared spectral range (ISO 11151-2:2000)

Laser und Laseranlagen - Optische Standardkomponenten - Teil 2: Komponenten für den infraroten Spektralbereich (ISO 11151-2:2000)

Lasers et équipements associés aux lasers - Composants optiques standards - Partie 2: Composants pour la plage spectrale infrarouge (ISO 11151-2:2000)

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ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment

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EUROPEAN STANDARD
NORME EUROPÉENNE
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English version

Lasers and laser-related equipment - Standard optical components - Part 2: Components for the infrared spectral range (ISO 11151-2:2000)

Lasers et équipements associés aux lasers - Composants optiques standards - Partie 2: Composants pour la plage spectrale infrarouge (ISO 11151-2:2000)

Laser und Laseranlagen - Optische Standardkomponenten - Teil 2: Komponenten für den infraroten Spektralbereich (ISO 11151-2:2000)

This European Standard was approved by CEN on 15 June 2000.

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 Central Secretariat 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 Central Secretariat 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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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

Central Secretariat: rue de Stassart, 36 B-1050 Brussels

Foreword

The text of the International Standard ISO 11151-2:2000 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 December 2000, and conflicting national standards shall be withdrawn at the latest by December 2000.

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, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 11151-2:2000 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO 11151-2

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Lasers and laser-related equipment — Standard optical components —

Part 2: Components for the infrared spectral range

Lasers et équipements associés aux lasers — Composants optiques standards —

Partie 2: Composants pour la plage spectrale infrarouge

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ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

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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 3.

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 part of ISO 11151 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 11151-2 was prepared by Technical Committee ISO/TC 172, *Optics and optical instruments*, Subcommittee SC 9, *Electro-optical systems*.

ISO 11151 consists of the following parts, under the general title *Lasers and laser-related equipment — Standard optical components*:

— *Part 1: Components for UV, visible and near-infrared spectral ranges*

— *Part 2: Components for the infrared spectral range*

Annexes A and B of this part of ISO 11151 are for information only.

Introduction

Lasers are used in a wide variety of applications, including medicine, materials processing, information technology and metrology. Most lasers contain optical windows and mirrors (intracavity) and most laser systems use a variety of windows, beamsplitters, deflectors, mirrors and lenses. Those components used in high power laser applications must withstand high peak power and/or energy densities to avoid laser-induced damage, thus their component specifications are more demanding than those used in low power applications.

Lasers and laser-related equipment — Standard optical components —

Part 2: Components for the infrared spectral range

1 Scope

This part of ISO 11151 specifies requirements for laser components used in the infrared spectral range, from wavelengths 2,10 µm to 15,0 µm, and facilitates the supply of spare parts:

— by specifying preferred dimensions and tolerances, thereby reducing the variety of types;

— by standardizing the specifications and removing barriers to trade;

— by establishing an agreed designation for item orders.

This part of ISO 11151 covers planar, plano-spherical and spherical substrates, lenses and optical components that are designed specifically as standardized optical components normally offered via catalogue from suppliers and intended for use with lasers.

This part of ISO 11151 includes component descriptions, materials employed, physical dimensions and manufacturing tolerances (including surface finish, figure and parallelism). Although most, but not all of these components will be coated (fully reflecting, partially reflecting or anti-reflecting) before incorporation into the laser system, this part of ISO 11151 does not include recommendations for the specification of coatings.

NOTE For optical components used in the ultra-violet, visible and near infrared spectral ranges (190 nm to 2 100 nm), refer to ISO 11151-1. For the specification and testing of optical coatings, refer to the ISO 9211 series.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 11151. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 11151 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 9211-1:1994, *Optics and optical instruments — Optical coatings — Part 1: Definitions.*

ISO 9211-2:1994, *Optics and optical instruments — Optical coatings — Part 2: Optical properties.*

ISO 10110-1:1996, *Optics and optical instruments — Preparation of drawings for optical elements and systems — Part 1: General.*