SLOVENSKI STANDARD
SIST EN ISO 11551:2020

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Nadomešča:

SIST EN ISO 11551:2004

Optika in optični instrumenti - Laserji in laserska oprema - Preskusna metoda za absorpcijo optičnih laserskih komponent (ISO 11551:2019, popravljena verzija 2020-01)

Optics and photonics - Lasers and laser-related equipment - Test method for absorptance of optical laser components (ISO 11551:2019, Corrected version 2020-01)

Optik und Photonik - Laser und Laseranlagen - Prüfverfahren für den Absorptionsgrad von optischen Laserkomponenten (ISO 11551:2019, korrigierte Fassung 2020-01)

Optique et photonique - Lasers et équipements associés aux lasers - Méthode d'essai du facteur d'absorption des composants optiques pour lasers (ISO 11551:2019, Version corrigée 2020-01)

Ta slovenski standard je istoveten z: **EN ISO 11551:2019**

ICS:

31.260	Optoelektronika, laserska oprema	Optoelectronics. Laser equipment

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EUROPEAN STANDARD

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EN ISO 11551

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English Version

Optics and photonics - Lasers and laser-related equipment - Test method for absorptance of optical laser components (ISO 11551:2019, Corrected version 2020-01)

Optique et photonique - Lasers et équipements associés aux lasers - Méthode d'essai du facteur d'absorption des composants optiques pour lasers (ISO 11551:2019, Version corrigée 2020-01)

Optik und Photonik - Laser und Laseranlagen - Prüfverfahren für den Absorptionsgrad von optischen Laserkomponenten (ISO 11551:2019, korrigierte Fassung 2020-01)

This European Standard was approved by CEN on 21 October 2019.

This European Standard was corrected and reissued by the CEN-CENELEC Management Centre on 05 February 2020.

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

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European foreword

This document (EN ISO 11551:2019) has been prepared by Technical Committee ISO/TC 172 "Optics and photonics" in collaboration with Technical Committee CEN/TC 123 “Lasers and photonics” 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of an identical text or by endorsement, at the latest by May 2020, and conflicting national standards shall be withdrawn at the latest by May 2020.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 11551:2019, Corrected version 2020-01 has been approved by CEN as EN ISO 11551:2019 without any modification.

INTERNATIONAL STANDARD

ISO 11551

Third edition
2019-10

Corrected version
2020-01

Optics and photonics — Lasers and laser-related equipment — Test method for absorptance of optical laser components

Optique et photonique — Lasers et équipements associés aux lasers — Méthode d'essai du facteur d'absorption des composants optiques pour 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee 9, *Laser and electro-optical systems*.

This third edition cancels and replaces the second edition ISO 11551:2003 which has been technically revised.

The main changes compared to the previous edition are as follows:

a) Introduction: The assumptions were revised in the second paragraph. Minor wording and example adjustment in third paragraph.

b) Clause 4: Table for symbols and units was corrected.

c) Clause 5: More detailed specification of environmental conditions for UV- and IR applications are provided in the second paragraph. ISO 7 specification was deleted.

   In the fourth paragraph, Annex A is explicitly mentioned for the dependence of absorption on other test parameters.

   In the fifth paragraph, Annex B is explicitly mentioned to account for the critical issue of finite heat conductivity.

d) In 7.2.3: In the first paragraph, the calibration procedure is specified in more detail, including the consideration of the heating scheme for thick samples.

   Note 1 is complemented by the restriction for thin samples.

   Note 2 is complemented with the consideration of heating scheme for finite heat conduction.

e) In 7.3: In the first paragraph the specifications for the ambient temperature drift were clarified.

   The requirements to the total temperature rise during heating were generalized.

In the third paragraph the terminology “pre-irradiation” was replaced by “drift record”. The description of the duration of the cooling period was complemented.

f) In 8.1: In the first paragraph “heat capacity” was replaced by “specific heat capacity”.

g) In A.1: “irradiation dose” added as influencing parameter.

h) In A.3: Generalization of nonlinear absorption dependencies.

i) In B.3: More detailed comments on the convergence of the temperature curves in Figure B.1. Correction of Formulae (B.2) and (B.3). An additional paragraph with explanations for thick test samples, including two references.

This corrected version of ISO 11551:2019 incorporates the following corrections:

— In 7.2.3, Formulae (B.1), (B.2) and (B.3), the symbol "α" has been changed into "a";

— Two signs have been corrected in Formula (C.4) to read "$-B$exp" and "$-t_k$" instead of "Bexp" and "t_k".