ICS 31.260 SLOVENSKÁ TECHNICKÁ NORMA September 2026

STN	**Lasery a laserové zariadenia Skúšobné metódy stanovenia prahu poškodenia spôsobeného laserovým žiarením Klasifikácia systémov dodávky medicínskych lúčov (ISO 22248: 2020)**	**STN EN ISO 22248** 19 2029

Lasers and laser-related equipment - Test methods for laser-induced damage threshold - Classification of medical beam delivery systems (ISO 22248:2020)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 08/26

Obsahuje: EN ISO 22248:2026, ISO 22248:2020

143012

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 22248

June 2026

ICS 31.260

English Version

Lasers and laser-related equipment - Test methods for laser-induced damage threshold - Classification of medical beam delivery systems (ISO 22248:2020)

Lasers et équipements associés aux lasers - Méthodes d'essai du seuil d'endommagement provoqué par laser - Classification des systèmes de transmission de faisceau médical (ISO 22248:2020)

Laser und Laseranlagen - Prüfverfahren für die laserinduzierte Zerstörschwelle - Einteilung von medizinischen Strahlführungssystemen (ISO 22248:2020)

This European Standard was approved by CEN on 13 May 2026.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and United Kingdom.

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 22248:2026 E

Contents

Page

European foreword

The text of ISO 22248:2020 has been prepared by Technical Committee ISO/TC 172 “Optics and photonics” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22248:2026 by 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 December 2026, and conflicting national standards shall be withdrawn at the latest by December 2026.

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.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 22248:2020 has been approved by CEN as EN ISO 22248:2026 without any modification.

INTERNATIONAL STANDARD

ISO 22248

First edition
2020-11

Lasers and laser-related equipment — Test methods for laser-induced damage threshold — Classification of medical beam delivery systems

Lasers et équipements associés aux lasers — Méthodes d'essai du seuil d'endommagement provoqué par laser — Classification des systèmes de transmission de faisceau médical

Reference number
ISO 22248:2020(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 www.iso.org/iso/foreword.html.

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

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Fire in an operating room is the most dangerous situation for patient and staff. Besides electrosurgical devices and endoscopic light sources, even surgical lasers can be ignition sources for drapes, gowns and tracheal tubes. This risk was identified very early and several ISO standards for laser proof materials have been published. The medical beam delivery system itself, however, was out of focus. Due to the increasing market on the one hand and necessity for cost reduction in health care on the other hand fibres have come into the market with a risk of self-ignition of the core or cladding material. Furthermore with reinvention of fibre-applicator-systems for contact application or integrated diffusor systems they have an increased risk for self-ignition due to high absorption. This document elaborates reproducible test parameters for medical beam delivery systems.

INTERNATIONAL STANDARD **ISO 22248:2020(E)**

Lasers and laser-related equipment — Test methods for laser-induced damage threshold — Classification of medical beam delivery systems

1 Scope

This document specifies a method of testing the laser-induced ignition and damage of medical beam delivery systems to allow checking of suitable products according to the classification system.

NOTE 1 Take care when interpreting these results, since the direct applicability of the results of this test method to the clinical situation has not been fully established.

NOTE 2 Users of products tested by this method are cautioned that the laser will be wavelength sensitive and tested at the wavelength for which it is intended to be used. If tested using other wavelengths, the power settings and modes of beam delivery need to be explicitly stated.

CAUTION — This test method can involve hazardous materials, operations and equipment. This document provides advice on minimizing some of the risks associated with its use but does not purport to address all such risks. It is the responsibility of the user of this document to establish appropriate safety and health practices and to determine the applicability of regulatory limitations prior to use.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13694, *Optics and photonics — Lasers and laser-related equipment — Test methods for laser beam power (energy) density distribution*

ISO/IEC Guide 99, *International vocabulary of metrology — Basic and general concepts and associated terms (VIM)*

