

TECHNICAL REPORT

IEC
60825-5

First edition
1998-11

Safety of laser products –

**Part 5:
Manufacturer's checklist for IEC 60825-1**

Sécurité des appareils à laser –

*Partie 5:
Liste de contrôle du fabricant
relative à la CEI 60825-1*

IEC TR 60825-5:1998

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* See web site address on title page.

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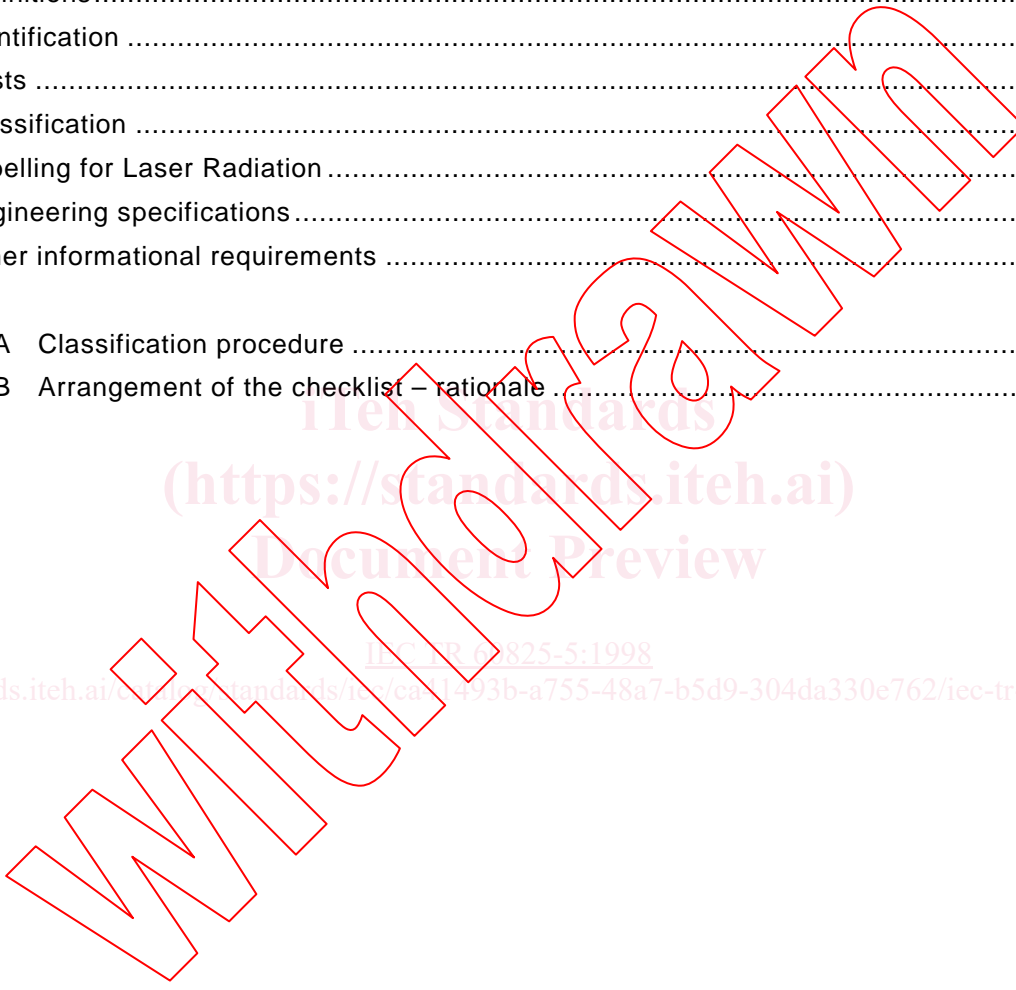
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF LASER PRODUCTS –

Part 5: Manufacturer's checklist for IEC 60825-1

FOREWORD

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Technical reports do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

IEC 60825-5, which is a technical report, has been prepared by IEC technical committee 76: Optical radiation safety and laser equipment.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
76/160/CDV	76/187/RVC

Full information on the voting for the approval of this technical report can be found in the report on voting indicated in the above table.

This document, which is purely informative, is not to be regarded as an International Standard.

SAFETY OF LASER PRODUCTS –

Part 5: Manufacturer's checklist for IEC 60825-1

SECTION ONE – GENERAL

NOTE – Numbers shown in parenthesis refer to the relevant clause in IEC 60825-1

1 Scope (1.1)

This technical report is applicable to laser products as described in IEC 60825-1.

2 Object (1.2)

The checklist is intended for use by manufacturers of laser products and their agents to establish that each new or modified design complies with the requirements of IEC 60825-1: 1993. The checklist is not a substitute for IEC 60825-1. It is necessary to use IEC 60825-1 in conjunction with the checklist, as relevant clauses and subclauses are referred to in the text.

The layout of the checklist is intended only as a guide. Manufacturers and examiners are encouraged to produce their own document, omitting questions and clauses that are not relevant to the types of product under examination, but noting in the appropriate positions the numbers of such clauses stating, for example: "subclause 4.3.2: Question omitted – not applicable".

The manufacturer should ensure that the examiner is a person competent in the inspection and classification of laser products.

3 Definitions

The definitions of IEC 60825-1 apply.

4 Identification

4.1 Details of examiner

Identification of the person responsible for examining and classifying the product under inspection:

Name: _____ Position: _____
print full name print full title

If the above named person is not an employee of the manufacturer of the laser product to be examined, state the details of the employing organization:

Organization:

Address:

4.2 Laser product

Details of product to be inspected:

Manufacturer:

Address:

Name and/or Model Number of laser product:

Serial Number of laser product:

Date of manufacture (if known): _____ Date of examination: _____

SECTION TWO – MANUFACTURING REQUIREMENTS

NOTE 1 – Numbers shown in parenthesis and italics refer to the relevant clause in IEC 60825-1.

NOTE 2 – Where a YES or NO answer is shown in this text as underlined, failure to give that answer, if applicable for this product, implies failure to comply with the requirements of IEC 60825-1 and corrective action will be required by the manufacturer or his agent if compliance is to be achieved.

NOTE 3 – If additional information is available to support answers given, write ENCL. in the right hand column and attach the information to the back of the checklist, referencing the relevant clause in the checklist.

NOTE 4 – If a question is not applicable to the laser product being examined, write N/A in the right hand column.

5 Tests

5.1 Measurements for determining classification

5.1.1 Have measurements of laser radiation been carried out in accordance with the requirements of clause 8 of IEC 60825-1? YES/NO

5.1.2 If NO, have measurements been deemed unnecessary by virtue of the physical characteristics and limitations of the laser source, so that the laser product is placed clearly in a particular class according to IEC 60825-1, clause 9? YES/NO

– *If NO, measurements for the determination of classification are required and shall be carried out in accordance with the requirements of clause 8 of IEC 60825-1 before proceeding further. See annex A of this technical report for guidance.*

5.1.3 If YES to either 5.1.1 or 5.1.2, state the following:

– wavelength or wavelength range of accessible laser radiation*:

– maximum level of accessible laser radiation*:

6 Classification

6.1 Classification procedure

See annex A

State the Class assigned to the laser product: _____

7 Labelling for Laser Radiation (5)

NOTE 1 – For all labels for light emitting diodes the word "laser" shall be replaced by "LED".

NOTE 2 – The words "laser light" on explanatory labels may be substituted for "laser radiation" if the output of the laser is in the visible range of 400 nm – 700 nm wavelength.

NOTE 3 – The words "invisible laser radiation" shall be substituted for "laser radiation" if the output of the laser is outside the visible range of 400 nm – 700 nm wavelength.

NOTE 4 – The words "visible and invisible laser radiation" shall be substituted for "laser radiation" if the output of the laser is both inside and outside the visible range of 400 nm – 700 nm wavelength.

* Values should be expressed in units according to, and in consideration of, subclauses 8.2f to 8.2k of IEC 60825-1.

NOTE 5 – All labels shall be:

- permanently affixed;
- legible and clearly visible during operation, maintenance or service, according to their purpose;
- positioned so that they can be read without the necessity for human exposure to laser radiation in excess of the AEL for Class 1;
- with black text on a yellow background, except where specified.

If the size or design of the product makes labelling impractical, the labels should be included with the user information or the package

7.1 Class 1 laser products

7.1.1 Is the following explanatory label (IEC 60825-1, figure 15) affixed to the product or included in the information for the user?

CLASS 1 LASER PRODUCT YES/NO

NOTE –The colour combination of black/yellow is optional for this label.

7.2 Class 2 laser products

7.2.1 Is a warning label affixed to the product (IEC 60825-1, figure 14)? YES/NO

7.2.2 Is the following explanatory label (IEC 60825-1, figure 15) affixed to the product?

LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT YES/NO

(See 7.6 for additional requirements for this label.)

7.3 Class 3A laser products

7.3.1 Is a warning label affixed to the product (IEC 60825-1, figure 14)? YES/NO

7.3.2 Is the following explanatory label (IEC 60825-1, figure 15) affixed to the product?

LASER RADIATION
DO NOT STARE INTO BEAM OR VIEW
DIRECTLY WITH OPTICAL INSTRUMENTS
CLASS 3A LASER PRODUCT YES/NO

(See 7.6 for additional requirements for this label.)

7.4 Class 3B laser products

7.4.1 Is a warning label affixed to the product (IEC 60825-1, figure 14)? YES/NO

7.4.2 Is the following explanatory label (IEC 60825-1, figure 15) affixed to the product?

LASER RADIATION
AVOID EXPOSURE TO BEAM
CLASS 3B LASER PRODUCT

YES/NO

(See 7.6 for additional requirements for this label.)

7.4.3 An aperture warning label shall be affixed on Class 3B laser products close to each laser aperture through which laser radiation in excess of the AEL for Class 1 or Class 2 is emitted. The label should bear the words:

LASER APERTURE

or the words:

AVOID EXPOSURE – LASER RADIATION IS EMITTED
FROM THIS APERTURE

Aperture warning label(s) affixed? YES/NO

7.5 Class 4 laser products

7.5.1 Is a warning label affixed to the product (IEC 60825-1, figure 14)? YES/NO

7.5.2 Is the following explanatory label (IEC 60825-1, figure 15) affixed to the product?

LASER RADIATION
AVOID EYE OR SKIN EXPOSURE TO
DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT

YES/NO

(See 7.6 for additional requirements for this label.)

7.5.3 An aperture warning label shall be affixed on Class 4 laser products close to each laser aperture through which laser radiation in excess of the AEL for Class 1 or Class 2 is emitted. The label should bear the words:

LASER APERTURE

or the words:

AVOID EXPOSURE – LASER RADIATION
IS EMITTED FROM THIS APERTURE

Aperture warning label(s) affixed? YES/NO