

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Safety of laser products –
Part 4: Laser guards**

**Sécurité des appareils à laser –
Partie 4: Protecteurs pour laser**



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COMMISSION

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

SAFETY OF LASER PRODUCTS –**Part 4: Laser guards****FOREWORD**

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IEC 60825-4 has been prepared by IEC technical committee 76: Optical radiation safety and laser equipment. It is an International Standard.

This third edition cancels and replaces the second edition published in 2006, Amendment 1:2008 and Amendment 2:2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Significant amendments have been included and this edition has been prepared for user convenience.

The text of this International Standard is based on the following documents:

Draft	Report on voting
76/704/FDIS	76/711/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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INTRODUCTION

At low levels of irradiance or radiant exposure, the selection of material and thickness for shielding against laser radiation is determined primarily by a need to provide sufficient optical attenuation. However, at higher levels, an additional consideration is the ability of the laser radiation to remove guard material – typically by melting, oxidation or ablation; processes that could lead to laser radiation penetrating a normally opaque material.

IEC 60825-1 deals with basic issues concerning laser guards, including human access, interlocking and labelling, and gives general guidance on the design of protective housings and enclosures for high-power lasers.

Laser guards may also comply with standards for laser protective eyewear, but such compliance is not necessarily sufficient to satisfy the requirements of this document.

Where the term "irradiance" is used, the expression "irradiance or radiant exposure, as appropriate" is implied.