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INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Safety of laser products –
Part 4: Laser guards

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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IEC 60825-4 edition 2.2 contains the second edition (2006) [documents 76/342/FDIS and 76/351/RVD], its amendment 1 (2008) [documents 76/383/FDIS and 76/385/RVD] and its amendment 2 (2011) [documents 76/428/CDV and 76/442/RVC].

A vertical line in the margin shows where the base publication has been modified by amendments 1 and 2.

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of the base publication and its amendments will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

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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.

This part of IEC 60825 deals with protection against laser radiation only. Hazards from secondary radiation that may arise during material processing are not addressed.

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

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