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Standards

Irish Standard  
I.S. EN 62496-1:2009

# Optical circuit boards -- Part 1: General (IEC 62496-1:2008 (EQV))

## I.S. EN 62496-1:2009

*Incorporating amendments/corrigenda issued since publication:*

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 62496-1**

April 2009

ICS 33.180.01; 31.180

English version

**Optical circuit boards -  
Part 1: General  
(IEC 62496-1:2008)**

Cartes à circuits optiques -  
Partie 1: Généralités  
(CEI 62496-1:2008)

Optische Leiterplatten -  
Teil 1: Fachgrundspezifikation  
(IEC 62496-1:2008)

This European Standard was approved by CENELEC on 2009-03-01. CENELEC 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 Central Secretariat or to any CENELEC member.

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# CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

**Central Secretariat: avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 86/307/FDIS, future edition 1 of IEC 62496-1, prepared by IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62496-1 on 2009-03-01.

The following dates were fixed:

- latest date by which the EN has to be implemented  
at national level by publication of an identical  
national standard or by endorsement (dop) 2009-12-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2012-03-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62496-1:2008 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068	NOTE Harmonized in EN 60068 series (not modified).
IEC 60793-1-1	NOTE Harmonized as EN 60793-1-1:2003 (not modified).
IEC 60869-1	NOTE Harmonized as EN 60869-1:2000 (not modified).
IEC 60874	NOTE Harmonized in EN 60874 series (not modified).
IEC 61073-1	NOTE Harmonized as EN 61073-1:2000 (not modified).
IEC 61753	NOTE Harmonized in EN 61753 series (not modified).
IEC 61754-2	NOTE Harmonized as EN 61754-2:1997 (not modified).
IEC 61754-4	NOTE Harmonized as EN 61754-4:1997 (not modified).
IEC 61754-13	NOTE Harmonized as EN 61754-13:1999 (not modified).
IEC 62005	NOTE Harmonized in EN 62005 series (not modified).

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## Annex ZA (normative)

### Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application 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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60027	Series	Letter symbols to be used in electrical technology	EN 60027	Series
IEC 60050-731	- <sup>1)</sup>	International Electrotechnical Vocabulary (IEV) - Chapter 731: Optical fibre communication	-	-
IEC 60617	Data base	Graphical symbols for diagrams	-	-
IEC 60695-11-5	- <sup>1)</sup>	Fire hazard testing - Part 11-5: Test flames - Needle-flame test method - Apparatus, confirmatory test arrangement and guidance	EN 60695-11-5	2005 <sup>2)</sup>
IEC 60825-1	- <sup>1)</sup>	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2007 <sup>2)</sup>
IEC 60825-2	- <sup>1)</sup>	Safety of laser products - Part 2: Safety of optical fibre communication systems (OFCS)	EN 60825-2	2004 <sup>2)</sup>
IEC 61300	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures	EN 61300	Series
IEC/TR 61930	- <sup>1)</sup>	Fibre optic graphical symbology	-	-
IEC/TR 61931	- <sup>1)</sup>	Fibre optic - Terminology	-	-
ISO 129-1	- <sup>1)</sup>	Technical drawings - Indication of dimensions and tolerances - Part 1: General principles	-	-
ISO 286-1	- <sup>1)</sup>	ISO system of limits and fits - Part 1: Bases of tolerances, deviations and fits	EN 20286-1	1993 <sup>2)</sup>
ISO 1101	- <sup>1)</sup>	Geometrical Product Specifications (GPS) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out	EN ISO 1101	2005 <sup>2)</sup>
ISO 8601	- <sup>1)</sup>	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-

<sup>1)</sup> Undated reference.

<sup>2)</sup> Valid edition at date of issue.

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL CIRCUIT BOARDS –

## Part 1: General

## FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62496-1 has been prepared by IEC technical committee 86: Fibre optics.

The text of this standard is based on the following documents:

FDIS	Report on voting
86/307/FDIS	86/312/RVD

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

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

A list of all the parts in the IEC 62496 series, under the general title *Optical circuit boards*, can be found on the IEC website.



The committee has decided that the contents of this publication 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

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

## OPTICAL CIRCUIT BOARDS –

### Part 1: General

#### 1 Scope

IEC 62496-1 applies to optical circuit boards possessing all of the following general features:

- transmit patterns with straight, cross, bending optical paths and input and output optical ports in plane;
- optical paths consisting of optical fibres and/or optical waveguides;
- controlled lengths of the optical paths, if required;
- may be combined with a printed electric circuit board, the functionality of which is outside the scope of this standard;
- functions to interconnect between optical components and the ability to mount components.

The purpose of this standard is to specify optical circuit board requirements as they relate to

- classification,
- IEC standard system,
- documentation,
- materials,
- workmanship,
- performance,
- identification
- packaging.

#### 2 Normative references

The following referenced documents are indispensable for the application 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.

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050-731, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60617 (all parts), *Graphical symbols for diagrams*

IEC 60695-11-5, *Fire hazard testing – Part 11-5: Test flames – Needle-flame test method – Apparatus, confirmatory test arrangement and guidance*

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 60825-2, *Safety of laser products – Part 2: Safety of optical fibre communication systems (OFCS)*

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