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**Plošče z optičnimi vezji - Tehnični standard - 3-1. del: Gibke plošče z optičnimi vezji, ki uporabljajo optična vlakna brez konektorjev (IEC 62496-3-1:2009)**

Optical circuit boards - Performance standard - Part 3-1: Flexible optical circuit boards using unconnectorized optical glass fibres (IEC 62496-3-1:2009)

Optische Leiterplatten - Betriebsverhalten - Teil 3-1: Flexible optische Leiterplatten mit nicht steckbaren Lichtwellenleitern (IEC 62496-3-1:2009)

Cartes à circuits optiques - Norme de performance - Partie 3-1 : Cartes à circuits optiques souples utilisant des fibres optiques en silice non connectorisées (CEI 62496-3-1:2009)

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**Ta slovenski standard je istoveten z: EN 62496-3-1:2010**

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**ICS:**

31.180	Tiskana vezja (TIV) in tiskane plošče	Printed circuits and boards
33.180.01	Sistemi z optičnimi vlakni na splošno	Fibre optic systems in general

**SIST EN 62496-3-1:2011**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 62496-3-1**

May 2010

ICS 31.180; 33.180.01

English version

**Optical circuit boards -  
Performance standard -  
Part 3-1: Flexible optical circuit boards using unconnectorized optical  
glass fibres  
(IEC 62496-3-1:2009)**

Cartes à circuits optiques -  
Norme de performance -  
Partie 3-1 : Cartes à circuits optiques  
souples utilisant des fibres optiques  
en silice non connectorisées  
(CEI 62496-3-1:2009)

Optische Leiterplatten -  
Betriebsverhalten -  
Teil 3-1: Flexible optische Leiterplatten  
mit nicht steckbaren Lichtwellenleitern  
für die Kategorie C -  
Kontrollierte Umgebung  
(IEC 62496-3-1:2009)

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# CENELEC

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

**Management Centre: Avenue Marnix 17, B - 1000 Brussels**

## Foreword

The text of document 86/319/CDV, future edition 1 of IEC 62496-3-1, prepared by IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62496-3-1 on 2010-05-01.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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) 2011-02-01
- latest date by which the national standards conflicting  
with the EN have to be withdrawn (dow) 2013-05-01

Annex ZA has been added by CENELEC.

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## Endorsement notice

The text of the International Standard IEC 62496-3-1:2009 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 60793-1-1	NOTE Harmonized as EN 60793-1-1.
IEC 60793-2	NOTE Harmonized as EN 60793-2.
IEC 60793-2-10	NOTE Harmonized as EN 60793-2-10.
IEC 60793-2-20	NOTE Harmonized as EN 60793-2-20.
IEC 60793-2-50	NOTE Harmonized as EN 60793-2-50.
IEC 60793-2-60	NOTE Harmonized as EN 60793-2-60.
IEC 61753-1	NOTE Harmonized as EN 61753-1.
IEC 62496-1	NOTE Harmonized as EN 62496-1.

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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 61300-2-18	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-18: Tests - Dry heat - High temperature endurance	EN 61300-2-18	-
IEC 61300-2-19	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-19: Tests - Damp heat (steady state)	EN 61300-2-19	-
IEC 61300-2-22	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	-
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
IEC 61300-3-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements - Attenuation	EN 61300-3-4	-
IEC 61300-3-6	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	-
ISO 5999	-	Flexible cellular polymeric materials - Polyurethane foam for load-bearing applications excluding carpet underlay - Specification	-	-

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IEC 62496-3-1

Edition 1.0 2009-08

# INTERNATIONAL STANDARD

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**Optical circuit boards –**  
**Part 3-1: Performance standards – Flexible optical circuit boards using**  
**unconnectorized optical glass fibres**

[SIST EN 62496-3-1:2011  
https://standards.iteh.ai/catalog/standards/sist/d9577518-c908-4e0f-9ab0-  
6c615065a79a/sist-en-62496-3-1-2011](https://standards.iteh.ai/catalog/standards/sist/d9577518-c908-4e0f-9ab0-6c615065a79a/sist-en-62496-3-1-2011)

INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

PRICE CODE

N

ICS 31.180; 33.180.01

ISBN 978-2-88910-740-7

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

## OPTICAL CIRCUIT BOARDS –

**Part 3-1: Performance standards –  
Flexible optical circuit boards using  
unconnectorized optical glass fibres**

## 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 62496-3-1 has been prepared by IEC technical committee 86: Fibre optics.

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

CDV	Report on voting
86/319/CDV	86/342/RVC

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 parts of IEC 62496 series, published 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.

A bilingual version of this publication may be issued at a later date.

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[SIST EN 62496-3-1:2011](https://standards.iteh.ai/catalog/standards/sist/d9577518-c908-4e0f-9ab0-6c615065a79a/sist-en-62496-3-1-2011)

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## OPTICAL CIRCUIT BOARDS –

### Part 3-1: Performance standards – Flexible optical circuit boards using unconnectorized optical glass fibres

## 1 Scope

This part of IEC 62496 defines the performance of flexible optical circuit boards (FOCBs) using unconnectorized optical glass fibres for controlled environment. This standard clarifies the requirements for quality classification of the flexible OCBs incorporating optical glass fibres.

## 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 61300-2-18, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-18: Tests – Dry heat – High temperature endurance*

IEC 61300-2-19, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-19: Tests – Damp heat (steady state)*

<https://standards.iteh.ai/catalog/standards/sist/d9577518-c908-4e0f-9ab0-6e615065e70e/sist-en-62496-3-1-2011>

IEC 61300-2-22, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-22: Tests – Change of temperature*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

IEC 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

IEC 61300-3-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-6: Examinations and measurements – Return loss*

ISO 5999, *Flexible cellular polymeric materials – Polyurethane foam for load-bearing applications excluding carpet underlay – Specification*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### FFOCB (fibre flexible OCB)

an OCB on which arbitrary routing patterns are made by fixing optical fibres and covered by a protection layer as illustrated in Figure 1. The fibre flexible OCB consists of a portion where the optical fibre is adhered to the flexible substrate as a routing pattern (OCB body) and “OCB tails” where the optical fibre is stacked out from the OCB body. The substrate for