

SLOVENSKI STANDARD
SIST EN 61753-031-3:2009**01-julij-2009**

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Fibre optic interconnecting devices and passive components performance standard -
Part 031-3: Non-connectorised single-mode 1xN and 2xN non-wavelength-selective
branching devices for Category U - Uncontrolled environment (IEC 61753-031-3:2009)

STANDARD PREVIEW

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil
031-3: Nicht mit Steckverbindern versehene wellenlängenunabhängige Einmoden-1xN-
und 2xN-Verzweiger für die Kategorie U - Unkontrollierte Umgebung (IEC 61753-031-
3:2009)

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Norme de qualité de fonctionnement des dispositifs d'interconnexion et composants
passifs à fibres optiques - Partie 031-3: Dispositifs de couplage non-connectorisés
monomodes 1xN et 2xN ne dépendant pas de la longueur d'onde pour catégorie U -
Environnement non contrôlé (CEI 61753-031-3:2009)

Ta slovenski standard je istoveten z: EN 61753-031-3:2009

ICS:

33.180.10 Q]`ā } æ|æ } æ|æ } æ|æ } æ|æ } Fibres and cables

SIST EN 61753-031-3:2009 **en**

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 61753-031-3

April 2009

ICS 33.180.10

English version

**Fibre optic interconnecting devices
and passive components performance standard -
Part 031-3: Non-connectorized single-mode 1xN and 2xN
non-wavelength-selective branching devices (NWBD) for Category U -
Uncontrolled environment
(IEC 61753-031-3:2009)**

Norme de qualité de fonctionnement
des dispositifs d'interconnexion
et composants passifs à fibres optiques -
Partie 031-3: Dispositifs de couplage
non-connectorisés monomodes 1xN
et 2xN ne dépendant pas de la longueur
d'onde pour catégorie U -
Environnement non contrôlé
(CEI 61753-031-3:2009)

Lichtwellenleiter -
Verbindungselemente
und passive Bauteile -
Betriebsverhalten -
Teil 031-3: Nicht mit Steckverbindern
versehene wellenlängenunabhängige
Einmoden-1xN- und 2xN-Verzweiger
für die Kategorie U -
Unkontrollierte Umgebung
(IEC 61753-031-3:2009)

<https://standards.iteh.ai/catalog/standards/sist/cf10d51d-e082-4362-9427-9e16765f6c2c/sist-en-61753-031-3-2009>

This European Standard was approved by CENELEC on 2009-04-01. 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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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 86B/2789/FDIS, future edition 1 of IEC 61753-031-3, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61753-031-3 on 2009-04-01.

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) 2010-01-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2012-04-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61753-031-3:2009 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 60875-1	NOTE Harmonized as EN 60875-1:2001 (not modified).
IEC 61753-1	NOTE Harmonized as EN 61753-1:2007 (not modified).

[SIST EN 61753-031-3:2009](https://standards.iteh.ai/catalog/standards/sist/cf10d51d-e082-4362-9427-9e16765f6c2c/sist-en-61753-031-3-2009)

<https://standards.iteh.ai/catalog/standards/sist/cf10d51d-e082-4362-9427-9e16765f6c2c/sist-en-61753-031-3-2009>

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 60793-2-50	- ¹⁾	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN 60793-2-50	2008 ²⁾
IEC 61300-2-1	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal)	EN 61300-2-1	2003 ²⁾
IEC 61300-2-4	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre/cable retention	EN 61300-2-4	1997 ²⁾
IEC 61300-2-5	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion	-	-
IEC 61300-2-9	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock	EN 61300-2-9	1997 ²⁾
IEC 61300-2-12	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-12: Tests - Impact	EN 61300-2-12	2005 ²⁾
IEC 61300-2-14	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-14: Tests - Optical power handling and damage threshold characterization	EN 61300-2-14 + corr. November	2006 ²⁾ 2006
IEC 61300-2-17	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-17: Tests - Cold	EN 61300-2-17	2003 ²⁾
IEC 61300-2-18	- ¹⁾	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	2005 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-2-19	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-19: Tests - Damp heat (steady state)	EN 61300-2-19	2005 ²⁾
IEC 61300-2-22	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	2007 ²⁾
IEC 61300-2-42	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-42: Tests - Static side load for connectors	EN 61300-2-42	2005 ²⁾
IEC 61300-2-46	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-46: Tests - Damp heat cyclic	EN 61300-2-46	2006 ²⁾
IEC 61300-3-2	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-2: Examinations and measurements - Polarization dependent loss in a single-mode fibre optic device	EN 61300-3-2	2009 ²⁾
IEC 61300-3-3	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-3: Examinations and measurements - Active monitoring of changes in attenuation and return loss	EN 61300-3-3	2003 ²⁾
IEC 61300-3-6	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-6: Examinations and measurements - Return loss	EN 61300-3-6	2009 ²⁾
IEC 61300-3-7	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-7: Examinations and measurements - Wavelength dependence of attenuation and return loss of single mode components	-	-
IEC 61300-3-20	- ¹⁾	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-20: Examinations and measurements - Directivity of fibre optic branching devices	EN 61300-3-20 + corr. March	2001 ²⁾ 2002
IEC 61753-2-1	- ¹⁾	Fibre optic interconnecting devices and passive components performance standard - Part 2-1: Fibre optic connectors terminated on single-mode fibre for category U - Uncontrolled environment	EN 61753-2-1	2000 ²⁾



IEC 61753-031-3

Edition 1.0 2009-02

INTERNATIONAL STANDARD

**Fibre optic interconnecting devices and passive components performance standard –
Part 031-3: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices (NWBD) for Category U – Uncontrolled environment**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE
COMPONENTS PERFORMANCE STANDARD –**
**Part 031-3: Non-connectorized single-mode 1×N and 2×N
non-wavelength-selective branching devices (NWBD) for Category U –
Uncontrolled environment**

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 61753-031-3 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/2789/FDIS	86B/2821/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 61753 series, under the general title *Fibre optic interconnecting devices and passive components performance standard*, 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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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS PERFORMANCE STANDARD –

Part 031-3: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices (NWBD) for Category U – Uncontrolled environment

1 Scope

This part of IEC 61753 contains the minimum initial tests and measurement requirements and severities which a non-wavelength selective branching device (NWBD) should satisfy in order to be categorized as meeting the requirements of Category U (uncontrolled environment) as defined in Annex A of IEC 61753-1.

This standard takes into account two technologies present on the market: the Fused Biconical Taper (FBT) and the Planar Lightwave Circuit (PLC). Requirements cover balanced, bidirectional, non-connectorized, single-mode 1 × N and 2 × N non-wavelength-selective branching devices for use in an IEC Category U environment (N is the number of output ports), especially for Passive Optical Network (PON) application. The specifications of unbalanced branching devices are limited to 1 × 2 and 2 × 2 devices because they are the most commonly used.

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2 Normative references

[SIST EN 61753-031-3:2009](#)

The following normative 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 60793-2-50: *Optical fibres – Part 2: Product specifications – Sectional specification for class B single-mode fibres*

IEC 61300-2-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-1: Tests – Vibration (sinusoidal)*

IEC 61300-2-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-4: Tests – Fibre/cable retention*

IEC 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion/Twist*

IEC 61300-2-9, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-9: Tests – Shock*

IEC 61300-2-12, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-12: Tests – Impact*

IEC 61300-2-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-14: Tests – Optical power handling and damage threshold characterization*

IEC 61300-2-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-17: Tests – Cold*