

INTERNATIONAL STANDARD

NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components –
Performance standard –
Part 031-6: Non-connectorized single-mode 1×N and 2×N non-wavelength
selective branching devices for Category O – Uncontrolled environment**

**Dispositifs d'interconnexion et composants passifs fibroniques –
Norme de performance –
Partie 031-6: Dispositifs de couplage indépendants de la longueur d'onde
1×N et 2×N en unimodal, non connectorisés, pour catégorie O –
Environnement non contrôlé**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
PERFORMANCE STANDARD –****Part 031-6: Non-connectorized single-mode 1×N and 2×N
non-wavelength-selective branching devices for Category O –
Uncontrolled environment**

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International Standard IEC 61753-031-6 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This bilingual version (2019-08) corresponds to the monolingual English version, published in 2014-09.

This second edition of IEC 61753-031-6 cancels and replaces the first edition published in 2008 and constitutes a technical revision.

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

- a) deletion of the Introduction;
- b) an updated and extended scope to reflect an introduction of two attenuation and uniformity performance classes for balanced NWBD instead of branching device technologies on the market;
- c) an updated list of normative references;
- d) a more simplified introduction to the two types of spectral bands;
- e) Clause 5, Performance requirements, has been updated and extended to reflect the introduction of two attenuation and uniformity performance classes for balanced NWBD;
- f) simplified test items to exclude tests for damp heat (steady state) and impact for performance requirements;
- g) Annex A has been changed to introduce the calculated and minimum requirements for attenuation and uniformity.

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

FDIS	Report on voting
86B/3763/FDIS	86B/3825/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.

The French version of this standard has not been voted upon.

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

IEC 61753 consists of the following parts, under the general title *Fibre optic interconnecting devices and passive components – Performance standard*:

The committee has decided that the content of this publication will remain unchanged until the stability 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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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 031-6: Non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices for Category O – 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 this standard.

The requirements cover balanced bidirectional non-connectorized single-mode 1×N and 2×N non-wavelength-selective branching devices for use in an IEC category O environment (N is the number of branching ports), especially but not exclusively used for PON application. For balanced NWBD, two attenuation and uniformity performance classes are considered: class A (premium class) which meets more restrictive requirements (i.e. for extended reach PON application) and class B (standard class) for standard application (i.e. normal reach PON application).

The requirements also cover unbalanced bidirectional non-connectorized single-mode non-wavelength-selective branching devices, however the specifications of unbalanced branching devices are limited to 1 × 2 and 2 × 2 devices because they are the most commonly used.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60793-2-50:2012, *Optical fibres – Part 2-50: 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*

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

IEC 61300-2-14, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-14: Tests – High optical power*