

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

**Fibre optic interconnecting devices and passive components – Performance standard –**

**Part 121-2: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category C – Controlled environment**

**Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –**

**Partie 121-2: Cordons simplex et duplex avec fibres unimodales, munis de connecteurs à férule cylindrique pour catégorie C – Environnement contrôlé**





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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES  
AND PASSIVE COMPONENTS –  
PERFORMANCE STANDARD –****Part 121-2: Simplex and duplex cords with single-mode  
fibre and cylindrical ferrule connectors for category C –  
Controlled environment**

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International Standard IEC 61753-121-2 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2010. This edition constitutes a technical revision.

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

- a) merge an optical performance requirement of a reference cord;
- b) delete Annexes D and E due to updated relevant standard document;

c) modify the whole document structure according to the latest ISO/IEC Directives.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86B/4076/FDIS	86B/4084/RVD

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

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

A list of all parts of IEC 61753 series, published 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 document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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- withdrawn,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

# FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

## Part 121-2: Simplex and duplex cords with single-mode fibre and cylindrical ferrule connectors for category C – Controlled environment

### 1 Scope

This part of IEC 61753 specifies the test requirements for cords including reference cords used in a controlled (Category C) environment according to IEC 61753-1, where the connectors already comply with the Category C requirements of IEC 61753-1. The tests selected are a subset of the connector tests from IEC 61753-1 appropriate for requalification with additional requirements relevant to cords and the connector/cable interface.

The cords consist of simplex or duplex fibre optic cable terminated at each end of the cable with single-mode fibre optic connector plugs with cylindrical ferrules. The operational wavelength range is between 1 260 nm and 1 625 nm. Short length cords are used as test samples as the attenuation of the cord and the temperature cycling performance will be affected by longer lengths of cable. It is important that any qualification of a cord whose length is greater than 5 m takes these factors into account.

The relevant requirements for the mechanical interface of connector sets are covered by the IEC 61754 all parts. The relevant requirements for the optical interface of connector sets are covered by IEC 61755 (all parts). The relevant requirements for performance of connector sets are covered by IEC 61753 (all parts). The relevant requirements for fibres are covered by IEC 60793-2-50. The relevant requirements for cables for cords are covered by IEC 60794-2-50.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2-50: Product specifications – Sectional specification for class B single-mode fibres*

IEC 60794-2-50, *Optical fibre cables – Part 2-50: Indoor cables – Family specification for simplex and duplex cables for use in terminated cable assemblies*

IEC 60794-2-51, *Optical fibre cables – Part 2-51: Indoor cables – Detail specification for simplex and duplex cables for use in cords for controlled environment*

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

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