

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Performance standard –

Part 043-02: Simplex patch-cord style single-mode fibre wavelength selective devices with cylindrical ferrule connector for category C – Controlled environment

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

Partie 043-02: Dispositifs sélectifs en longueur d'onde à fibres unimodales de type cordon simplex de brassage avec des connecteurs à férules cylindriques pour la catégorie C – Environnement contrôlé



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND
PASSIVE COMPONENTS – PERFORMANCE STANDARD –

**Part 043-02: Simplex patch-cord style single-mode fibre wavelength
selective devices with cylindrical ferrule connectors for category C –
Controlled environment**

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

Draft	Report on voting
86B/4635/FDIS	86B/4654/RVD

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

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

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INTRODUCTION

Wavelength selective cords combine features and functions from cords as described in the IEC 61753-12x series and from filters as described in IEC 61977. Additional information about functional principle and application can be found in Annex D and Annex E.

The cords consist of simplex fibre optic cable terminated at each end of the cable with single-mode fibre optic connector plugs with cylindrical ferrules. The operating wavelength range is between 1 260 nm and 1 660 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 IEC 61754 (all parts). The relevant requirements for the optical interface of single-mode fibre optical connector sets are covered by IEC 61755 (all parts). The relevant requirements for performance of connector sets are covered by IEC 61753-1:2018. The relevant requirements for single-mode fibres are covered by IEC 60793-2-50. The relevant requirements for cables for cords are covered by IEC 60794-2-50.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 043-02: Simplex patch-cord style single-mode fibre wavelength selective devices with cylindrical ferrule connectors for category C – Controlled environment

1 Scope

This part of IEC 61753 specifies the test requirements for wavelength selective cords used in a controlled environment (category C) according to IEC 61753-1:2018, where the connectors already comply with the category C requirements of IEC 61753-1:2018. The tests selected are a subset of the connector tests from IEC 61753-1:2018 appropriate for requalification with additional requirements relevant to cords and the connector/cable interface.

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

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

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

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

IEC 61300-2-6, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-6: Tests – Tensile strength of coupling mechanism*

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

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