

Fibre optic interconnecting devices and passive components performance standard —

Part 101-2: Fibre management systems for category C — Controlled environment

The European Standard EN 61753-101-2:2006 has the status of a
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National foreword

This British Standard was published by BSI. It is the UK implementation of EN 61753-101-2:2006. It is identical with IEC 61753-101-2:2006.

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A list of organizations represented on GEL/86/2 can be obtained on request to its secretary.

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**Fibre optic interconnecting devices
and passive components performance standard
Part 101-2: Fibre management systems for category C -
Controlled environment
(IEC 61753-101-2:2006)**

Norme de qualité de fonctionnement
des dispositifs d'interconnexion et
composants passifs à fibres optiques
Partie 101-2: Systèmes de gestion
de fibres pour la Catégorie C -
Environnement contrôlé
(CEI 61753-101-2:2006)

Lichtwellenleiter -
Verbindungselemente
und passive Bauteile -
Betriebsverhalten
Teil 101-2:
Einzelfasermanagementsysteme
für die Kategorie C -
Geregelte Umgebung
(IEC 61753-101-2:2006)

This European Standard was approved by CENELEC on 2006-10-01. 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.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

The text of document 86B/2348/FDIS, future edition 1 of IEC 61753-101-2, 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 61753-101-2 on 2006-10-01.

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with the EN have to be withdrawn (dow) 2009-10-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61753-101-2:2006 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

This Performance Standard for fibre management systems defines the requirements for standard optical performance under a set of specified conditions. This standard contains a series or a set of tests and measurements with clearly stated conditions, severities and pass/fail criteria. The series of tests, commonly referred to as an operating service environment or performance category, is intended to be a basis to prove the product's ability to satisfy the requirements of a specific application, market sector or user group.

A product that has been shown to meet all the requirements of this performance standard may be declared as complying with this performance standard. Products having the same classification from one manufacturer that satisfy this performance standard, will operate within the boundaries set by the performance standard. There is no guarantee that products from different manufacturers, having the same classification and which conform to the same performance standard, will provide an equivalent level of performance when they are used together.

Conformance with IEC environmental policy according to IEC Guide 109 and concerning the need to reduce the impacts on the natural environment of fibre management system products during all phases of their life – from acquiring materials to manufacturing, distribution, use, and end-of-life treatment (i.e. re-use, recycling and disposal) – is indicated within each product specification.

Conformance to a performance standard demonstrates that a product has passed a design verification test. It is not a guarantee of lifetime assured performance or reliability. Reliability testing must be the subject of a separate test schedule, where the tests and severities selected are such that they are truly representative of the requirements of this reliability test programme. Consistency of manufacture should be maintained using a recognised Quality Assurance programme whilst the reliability of a product should be evaluated using the procedures recommended in IEC 62005.

Tests and measurements should be selected from the IEC 61300 series.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS PERFORMANCE STANDARD –

Part 101-2: Fibre management systems for Category C – Controlled environment

1 Scope

This part of IEC 61753 deals with performance standards for parts of fibre management systems. It defines those tests and severities which form the performance or general operating service environment, and identifies those tests which are considered to be product specific. Test and severity details are given.

This part of IEC 61753 contains the minimum test and measurement severities which a specific product must satisfy in order to be categorised as meeting the IEC standard, Category C – Controlled environment, as defined in Annex A of IEC 61753-1. More severe requirements may be agreed between the customer and the supplier.

A product performance standard will contain a combination of those tests and measurements that are common to all products, for a particular service environment or performance category, and those that are considered specific to that particular product in that environment.

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 60068-2-64, *Environmental testing, Part 2-64: Tests methods – Test Fh: Vibration, broadband random (digital control) and guidance*

IEC 60721-3-1, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 1: Storage.*

IEC 60721-3-2, *Classification of environmental conditions – Part 3: Classification of groups of environmental parameters and their severities – Section 2: Transportation.*

IEC 60793-2-50, *Optical fibres – Part 2-50: Product specifications – Sectional specification for class B single-mode fibres*

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 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 61300-2-9, *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 61300-2-17, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-17: Tests – Cold*

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)*

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

IEC 61300-2-33, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-33: Tests – Assembly and disassembly of closures*

IEC 61300-2-42, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-42: Tests – Static side load for connectors*

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 61300-3-3, *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*

IEC 61300-3-28, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-28: Examinations and measurements – Transient loss*

IEC 61753-1, *Fibre optic interconnecting devices and passive components – Part 1: General and guidance for performance standards*²

IEC 62134-1, *Fibre optic enclosures – Part 1: Generic specification*

3 Terms, definitions and abbreviations

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

² To be published.

3.1 Terms and definitions

3.1.1

excursion loss

loss monitored (at regular time intervals) during slow variations of environmental parameters

3.1.2

intervention

gain access to modify, add, remove or repair fibre circuits, splices, connectors or other components between the incoming and outgoing cables of an existing fibre management system

3.1.3

installation

establish and install a fibre management system, by adding new circuits, splices, connectors and other components, including the incoming and outgoing cables

3.1.4

installation conditions

circumstances that must be fulfilled for an installation, including environmental conditions, size interface between the closure or enclosure and the fibre management system, optical performance, additional/special conditions and safety requirements

3.1.5

residual loss

variation of the optical loss of the circuit before versus after an exposure

3.1.6

transient loss

sudden variations of the optical loss in a circuit's loss characteristics during:

- a) manipulation of the entire closure or enclosure and its fibre management system;
- b) access to adjacent circuits stored in the same closure or enclosure;
- c) sudden effects induced by the external environment (e.g. vibration, shock)

3.2 Abbreviations

FMS: Fibre Management System

SC: Single Circuit

SE: Single Element

ME: Multiple Element

MR: Multiple Ribbon

4 Environmental requirements

Environmental requirements for products of fibre management systems shall be derived from the requirements for the housings.