

# INTERNATIONAL STANDARD

## NORME INTERNATIONALE

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

**Part 111-7: Sealed closures for category A – Aerial**

**Dispositifs d'interconnexion et composants passifs à fibres optiques norme de  
qualité de fonctionnement –**

**Partie 111-7: Boîtiers scellés pour catégorie A – Aériens**



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES  
AND PASSIVE COMPONENTS  
PERFORMANCE STANDARD –****Part 111-7: Sealed closures for category A –  
Aerial**

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International Standard IEC 61753-111-7 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/2904/FDIS	86B/2934/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 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.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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- withdrawn,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.

## INTRODUCTION

Performance standards for sealed closures define the requirements for standard optical performance under a set of specified conditions. This part of IEC 61753 contains a series or a set of tests and measurements with clearly stated conditions, severities and pass/fail criteria. The set of tests 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 impact on the natural environment of fibre optic closures during all phases of their life – from acquiring materials to manufacturing, distribution, use, and end-of-life treatment (i.e. re-use, recycling (recovery and disposal)) are not part of this standard, but will be covered in the generic 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 the product should be evaluated using the procedures recommended in IEC 62005 series.

Tests and measurements are selected from the IEC 61300 series.

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

## **Part 111-7: Sealed closures for category A – Aerial**

### **1 Scope**

This part of IEC 61753 contains the minimum test and measurement requirements and severities which a sealed fibre optic closure must satisfy in order to be categorised as meeting the IEC standard for category A – aerial, as defined in Annex A of IEC 61753-1. Free breathing closures are not covered in this standard.

### **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 60068-2-10, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*

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

IEC 60793-2-50:2008, *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 61300-2-5, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-5: Tests – Torsion (available in English only)*

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

IEC 61300-2-11, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-11: Tests – Axial compression<sup>1</sup>*

IEC 61300-2-12:2009, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-12: Tests – Impact*

<sup>1</sup> This publication was withdrawn in 2002. A project is currently under consideration.



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

IEC 61300-2-26, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-26: Tests – Salt mist*

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

IEC 61300-2-37, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-37: Tests – Cable bending for fibre optic closures*

IEC 61300-2-38:2006, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-38: Tests – Sealing for pressurized fibre optic closures*

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 61300-3-3:2009, *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* (available in English only)

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 61753-1:2007, *Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards*

IEC 62134-1, *Fibre optic interconnecting devices and passive components – Fibre optic closures – Part 1: Generic specification*

ISO 4892-3:2006, *Plastics – Methods of exposure to laboratory light sources – Part 3: Fluorescent UV lamps*

### **3 Terms, definitions and abbreviations**

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

#### **3.1 Terms and definitions**

##### **3.1.1**

##### **distribution joint**

splice closure that allows easy fibre access, maintenance, re-arrangement and addition of fibre circuits or passive optical components

NOTE Accessing fibre circuits must not cause any transmission degradation or disruption in other operational fibre circuits. Storage of continuous fibres and fibre cable elements is allowed, for example loose tubes passing through the closure. This closure is typically used in access and distribution networks.

##### **3.1.2**

##### **excursion loss**

change in optical loss during slow variations of environmental parameters