

INTERNATIONAL STANDARD

COMMENTED VERSION

**Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -
Part 2-33: Tests - Assembly and disassembly of fibre optic mechanical splices, fibre management systems, protective housings and hardened connectors**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Basic test and measurement procedures -
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 housings and hardened connectors**

FOREWORD

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This commented version (CMV) of the official standard IEC 61300-2-33:2026 edition 4.0 allows the user to identify the changes made to the previous IEC 61300-2-33:2012 edition 3.0. Furthermore, comments from IEC TC SC 86B experts are provided to explain the reasons of the most relevant changes, or to clarify any part of the content.

A vertical bar appears in the margin wherever a change has been made. Additions are in green text, deletions are in strikethrough red text. Experts' comments are identified by a blue-background number. Mouse over a number to display a pop-up note with the comment.

This publication contains the CMV and the official standard. The full list of comments is available at the end of the CMV.

IEC 61300-2-33 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics. It is an International Standard.

This fourth edition cancels and replaces the third edition published in 2012. This edition constitutes a technical revision.

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

- a) update of the terms and definitions according to IEC 61753-1:2018 and IEC 61756-1:2019;
- b) update of the test severities according to the new edition of IEC 61753-1:2018;
- c) addition of procedure D to verify the sealing performance after frequent mating and demating of a hardened connector.

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

Draft	Report on voting
86B/5175/FDIS	86B/5201/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.

The list of all parts of IEC 61300 series, published under the general title, *Fibre optic interconnecting devices and passive components - Basic test and measurement procedures*, can be found on the IEC website.

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/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

1 Scope

This part of IEC 61300, evaluates the ~~assembly and reassembly~~ behaviour of a fibre optic mechanical splice, a fibre management system, ~~or a closure for~~ a protective housing **1** or a hardened connector **2** after being subjected to a specified number of ~~times~~ assembly and disassembly operations.

The test procedures described in this document simulate ~~the following~~ conditions ~~which may be encountered during the component's service lifetime~~ that the component can encounter during its service lifetime to check the following performance characteristics:

- ~~the ability~~ capability of an optical mechanical splice to be reinstalled after being disassembled;
- ~~the ability~~ capability to ~~re-enter~~ reintroduce fibre management systems and ~~closures~~ protective housings, accessing fibres and optical components and making reconfigurations without disturbing transmission in adjacent fibre circuits;
- ~~verification of the sealing performance after frequent opening and closing of enclosures.~~
- sealing performance of the protective housing after frequent opening and closing operations;
- sealing performance of the hardened connector after frequent mating and demating operations. **3**

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

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

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

IEC 61753 (all parts), *Fibre optic interconnecting devices and passive components - Performance standard*

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

IEC 61753-131 (all parts), *Fibre optic interconnecting devices and passive components - Performance standard: Single-mode mechanical fibre splice*

IEC 62005 (all parts), *Reliability of fibre optic interconnecting devices and passive components*

Bibliography

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

List of comments

- 1 The term “closure” in the previous edition is replaced with “protective housing” to cover a wider range of products. More details can be found in IEC 61753-1.
 - 2 Hardened connector is newly introduced in this edition to meet market demand.
 - 3 The sealing performance of hardened connectors shall be maintained after mating and demating.
 - 4 This procedure is newly introduced for hardened connectors.
 - 5 Performance categories are updated in accordance with the latest edition of IEC 61753-1.
 - 6 For each category, “at least” is added to allow flexibility for different requirements.
 - 7 The number of cycles for protective housing and hardened connectors under various categories are modified to 5 to align with mechanical splices.
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