IEC 61300-2-11

Edition 3.0 2023-11

INTERNATIONAL STANDARD

NORME INTERNATIONALE

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –
Part 2-11: Tests – Axial compression

Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures –
Partie 2-11: Essais – Compression axiale



IEC 61300-2-11:2023-11 (en-fr)



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-11: Tests – Axial compression

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IEC 61300-2-11 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 third edition cancels and replaces the second 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) added Terms and definitions clause;
b) removed severity table for closures;

c) added recommended severity for tubes and cables without strength member attachment.

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

Draft	Report on voting
86B/4807/FDIS	86B/4824/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/publications.

A list of all parts in the 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.

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- withdrawn, or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.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 2-11: Tests – Axial compression

1 Scope

The purpose of this part of IEC 61300 is to ensure that the captivation or the attachment of the cable to the fibre optic devices or components, for example fibre optic closures, will withstand compressive axial loads likely to be applied during normal service.

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 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

3 Terms, definitions, and abbreviated terms

3.1 Terms and definitions

No terms and definitions are listed in this document.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- IEC Electropedia: available at https://www.electropedia.org/
- ISO Online browsing platform: available at https://www.iso.org/obp

3.2 Abbreviated terms

DUT device under test

4 General description

The DUT is rigidly clamped and an axial compressive load is applied to the cable.

5 Apparatus

5.1 General

The test apparatus shall be capable of applying an axial compression load between a clamped device or component and a fixed cable. The apparatus consists of the elements described in 5.2 to 5.5.

5.2 Moveable clamping device

A clamping device which grips a length of fibre optic cable over a distance equivalent to at least three times the cable diameter (see Figure 1, dimension A), and which is capable of providing an axial load without slipping, causing damage to the cable or increasing attenuation.

5.3 Fixed clamping device

A fixed clamping device capable of gripping the device or component without altering any of its mechanical properties.

5.4 Force generator

A force generator may be any device or apparatus capable of smoothly applying the specified force at the specified rate.

5.5 Force gauge

An instrument for measuring the applied force being exerted between the device or component and the fibre optic cable.

6 Procedure

6.1 Preparation of DUT

The DUT shall consist of a fully assembled optical device or component where one or more cables are fixed and prepared in accordance with the manufacturer's instructions. The DUT shall be subjected to the following test procedure in non-operational mode.

6.2 Preconditioning

Precondition each prepared DUT for at least 2 h at the standard atmospheric conditions specified in IEC 61300-1.

6.3 Mounting of the DUT

Securely fix the device or component to the fixed clamping device. See Figure 1 for an example of the test set-up. Clamp the cable at the point of application using a movable clamping device such that the distance, L, between the rear of the strain relief and the front of the moveable clamping device is at maximum twice the cable diameter to prevent cable buckling.