



**NSAI**  
Standards

Irish Standard  
I.S. EN IEC 61300-2-46:2019

Fibre optic interconnecting devices and  
passive components - Basic test and  
measurement procedures - Part 2-46:  
Tests - Damp heat, cyclic

**I.S. EN IEC 61300-2-46:2019**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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## National Foreword

I.S. EN IEC 61300-2-46:2019 is the adopted Irish version of the European Document EN IEC 61300-2-46:2019, Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-46: Tests - Damp heat, cyclic

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**EN IEC 61300-2-46**

May 2019

ICS 33.180.20

Supersedes EN 61300-2-46:2006

English Version

**Fibre optic interconnecting devices and passive components -  
Basic test and measurement procedures - Part 2-46: Tests -  
Damp heat, cyclic  
(IEC 61300-2-46:2019)**

Dispositifs d'interconnexion et composants passifs à fibres  
optiques - Méthodes fondamentales d'essais et de mesures  
- Partie 2-46: Essais - Chaleur humide, essai cyclique  
(IEC 61300-2-46:2019)

Lichtwellenleiter - Verbindungselemente und passive  
Bauteile - Grundlegende Prüf- und Messverfahren - Teil 2-  
46: Prüfungen - Feuchte Wärme (zyklisch)  
(IEC 61300-2-46:2019)

This European Standard was approved by CENELEC on 2019-04-22. 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 CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

**EN IEC 61300-2-46:2019 (E)**

**European foreword**

The text of document 86B/4167/FDIS, future edition 2 of IEC 61300-2-46, 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 approved by CENELEC as EN IEC 61300-2-46:2019.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-01-22
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2020-04-22

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The text of the International Standard IEC 61300-2-46:2019 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-2-30	NOTE	Harmonized as EN 60068-2-30
IEC 60068-5-2	NOTE	Harmonized as EN 60068-5-2

## Annex ZA

(normative)

### Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: [www.cenelec.eu](http://www.cenelec.eu).

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60068-1	2013	Environmental testing - Part 1: General and guidance	EN 60068-1	2014
IEC 60068-3-6	-	Environmental testing – Part 3-6: Supporting documentation and guidance – Confirmation of the performance of temperature/humidity chambers	EN IEC 60068-3-6	-
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	-
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
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	EN 61300-3-3	-

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**IEC 61300-2-46**

Edition 2.0 2019-03

# **INTERNATIONAL STANDARD**

## **NORME INTERNATIONALE**

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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 2-46: Tests – Damp heat, cyclic**

**Dispositifs d'interconnexion et composants passifs fibroniques – Méthodes fondamentales d'essais et de mesures –  
Partie 2-46: Essais – Chaleur humide, essai cyclique**



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**IEC 61300-2-46**

Edition 2.0 2019-03

# **INTERNATIONAL STANDARD**

## **NORME INTERNATIONALE**

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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –  
Part 2-46: Tests – Damp heat, cyclic**

**Dispositifs d'interconnexion et composants passifs fibroniques – Méthodes fondamentales d'essais et de mesures –  
Partie 2-46: Essais – Chaleur humide, essai cyclique**

INTERNATIONAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

#### **Part 2-46: Tests – Damp heat, cyclic**

#### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61300-2-46 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2006. This edition constitutes a technical revision.

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

- a) complete revision to harmonize with IEC 60068-2-30;
- b) addition of detail description Clause 4, General description;
- c) addition of detail description Clause 5, Apparatus;
- d) addition of detail description Clause 6, Procedure.

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

FDIS	Report on voting
86B/4167/FDIS	86B/4182/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

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 "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

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

## **Part 2-46: Tests – Damp heat, cyclic**

### **1 Scope**

The purpose of this part of IEC 61300 is to describe a test to determine the suitability of a fibre optic device to withstand the environmental condition of high humidity and change of temperature which can occur in actual use, storage and/or transport.

The test is primarily intended to determine the suitability of fibre optic components under conditions of high humidity – combined with cyclic temperature changes and, in general, producing condensation on the surface of the device under test (DUT). Absorption of moisture can result in swelling that would destroy functional utility, cause loss of physical strength, and cause changes in other important mechanical properties. Degradation of optical properties can also occur.

Although not necessarily intended as a simulated tropical test, this test can, nevertheless, be useful in determining moisture absorption of insulating or covering materials.

### **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 60068-1:2013, *Environmental testing – Part 1: General and guidance*

IEC 60068-3-6, *Environmental testing – Part 3-6: Supporting documentation and guidance – Confirmation of the performance of temperature/humidity chambers*

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*

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*

### **3 Terms and definitions**

No terms and definitions are listed in this document.

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

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