IEC 61300-2-46

Edition 2.0 2019-03

REDLINE VERSION

colour inside

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

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

ICS 33.180.20

ISBN 978-2-8322-6682-3

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

Part 2-46: Tests – Damp heat, cyclic

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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.

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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 ~~may~~ 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 ~~specimen~~ device under test (DUT). Absorption of moisture ~~may~~ 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 ~~may~~ 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 60068-2-30, *Environmental testing – Part 2-30: Tests – Test Db: Damp heat, cyclic (12 h + 12 h cycle)*~~

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*

IEC 61300-2-46

Edition 2.0 2019-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE

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



IEC 61300-2-46:2019-03(en-fr)

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Part 2-46: Tests – Damp heat, cyclic

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Part 2-46: Tests – Damp heat, cyclic

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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*

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE

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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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La Norme internationale IEC 61300-2-46 a été établie par le sous-comité 86B: Dispositifs d'interconnexion et composants passifs à fibres optiques, du comité d'études 86 de l'IEC: Fibres optiques.

Cette deuxième édition annule et remplace la première édition parue en 2006. Cette édition constitue une révision technique.

Cette édition inclut les modifications techniques majeures suivantes par rapport à l'édition précédente:

a) révision complète pour harmonisation avec l'IEC 60068-2-30;
b) ajout de l'Article 4 de description détaillée, Description générale;

c) ajout de l’Article 5 de description détaillée, Appareillage;

d) ajout de l’Article 6 de description détaillée, Procédure.

Le texte de cette Norme internationale est issu des documents suivants:

FDIS	Rapport de vote
86B/4167/FDIS	86B/4182/RVD

Le rapport de vote indiqué dans le tableau ci-dessus donne toute information sur le vote ayant abouti à l'approbation de la présente Norme internationale.

Ce document a été rédigé selon les Directives ISO/IEC, Partie 2.

Une liste de toutes les parties de la série IEC 61300, publiées sous le titre général *Dispositifs d’interconnexion et composants passifs fibroniques – Méthodes fondamentales d’essais et de mesures*, peut être consultée sur le site web de l'IEC.

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DISPOSITIFS D'INTERCONNEXION ET COMPOSANTS PASSIFS FIBRONIQUES – MÉTHODES FONDAMENTALES D'ESSAIS ET DE MESURES –

Partie 2-46: Essais – Chaleur humide, essai cyclique

1 Domaine d'application

L'objet de cette partie de l'IEC 61300 est de décrire un essai destiné à déterminer l'aptitude d'un dispositif fibronique à supporter un environnement très humide avec d'importantes variations de température, susceptible de se produire en fonctionnement réel, pendant le stockage et/ou le transport.

L'essai est d'abord destiné à déterminer l'aptitude des composants fibroniques à une utilisation dans des conditions de forte humidité, associées à des changements de température cycliques, et produisant en général de la condensation à la surface du dispositif soumis à l'essai (DSE). La pénétration de l'humidité peut entraîner un gonflement susceptible de détériorer le fonctionnement normal, causer des pertes de rigidité physique et provoquer des changements dans d'autres propriétés mécaniques importantes. Des dégradations des propriétés optiques peuvent également se produire.

Bien qu'il ne soit pas nécessairement prévu comme un essai tropical simulé, cet essai peut cependant être utile pour déterminer l'absorption de l'humidité par les matériaux d'isolation ou de couverture.

2 Références normatives

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IEC 60068-1:2013, *Essais d'environnement – Partie 1: Généralités et lignes directrices*

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

IEC 61300-1, *Dispositifs d'interconnexion et composants passifs fibroniques – Procédures fondamentales d'essais et de mesures – Partie 1: Généralités et lignes directrices*

IEC 61300-3-1, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-1: Examens et mesures – Examen visuel*

IEC 61300-3-3, *Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 3-3: Examens et mesures – Contrôle actif des variations de l'affaiblissement et de l'affaiblissement de réflexion*