Irish Standard
I.S. EN 61300-2-21:2010

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-21: Tests - Composite temperature/humidity cyclic test (IEC 61300-2-21:2009 (EQV))

I.S. EN 61300-2-21:2010

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EUROPEAN STANDARD

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EN 61300-2-21

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English version

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-21: Tests - Composite temperature/humidity cyclic test

(IEC 61300-2-21:2009)

Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures – Partie 2-21: Essais – Essai cyclique composite température/humidité
(CEI 61300-2-21:2009)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 2-21: Prüfungen - kombinierte Temperatur/Feuchte, zyklisch
(IEC 61300-2-21:2009)

This European Standard was approved by CENELEC on 2010-02-01. 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 Central Secretariat or to any CENELEC member.

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CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 61300-2-21:2010 E

Foreword

The text of document 86B/2924/FDIS, future edition 2 of IEC 61300-2-21, 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 was approved by CENELEC as EN 61300-2-21 on 2010-02-01.

This European Standard supersedes EN 61300-2-21:1997.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

The changes with respect to EN 61300-2-21:1997 are:

– to reconsider the whole parts of the standard;

– to describe the apparatus and procedure in greater details;

– to define with precision the number of 24 cycles in the severity.

The following dates were fixed:

– latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2010-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2011-02-01

Annex ZA has been added by CENELEC.

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Endorsement notice

The text of the International Standard IEC 61300-2-21:2009 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 61300-1 NOTE Harmonized as EN 61300-1.

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Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-38	-	Environmental testing - Part 2-38: Tests - Test Z/AD: Composite temperature/humidity cyclic test	EN 60068-2-38	-
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 61300-3-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-4: Examinations and measurements - Attenuation	EN 61300-3-4	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-21: Tests – Composite temperature/humidity cyclic test

FOREWORD

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International Standard IEC 61300-2-21 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 1995. It constitutes a technical revision. The changes with respect to the previous edition are:

– to reconsider the whole parts of the standard;
– to describe the apparatus and procedure in greater details;
– to define with precision the number of 24 cycles in the severity.

The text of this standard is based on the following documents:

FDIS	Report on voting
86B/2924/FDIS	86B/2961/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 the parts of IEC 61300 series, 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 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.

A bilingual version of this publication may be issued at a later date.

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

Part 2-21: Tests – Composite temperature/humidity cyclic test

1 Scope

The purpose of this part of IEC 61300 is to determine the resistance of a fibre optic device to the deteriorative effects of high temperature, humidity and cold conditions.

It is intended to reveal defects in a device under test (DUT) caused by breathing as opposed to absorption of moisture. The test covers the effect of the freezing of trapped water in cracks and fissures as well as condensation. However, the degree of condensation will vary depending on the size and thermal mass of the DUT.

This test differs from other cyclic damp heat tests in that it derives its increased severity from:

a) a greater number of temperature variations leading to pumping actions in a given time;

b) a greater cyclic temperature range;

c) a higher rate of change of temperature;

d) the inclusion of a number of excursions to sub-zero temperature.

This type of test is particularly important for fibre optic devices made of a variety of different materials.

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 60068-2-38 *Environmental testing – Part 2-38: Tests – Test Z/AD: Composite temperature/humidity cyclic test*

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 61300-3-4, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-4: Examinations and measurements – Attenuation*

3 General description

This procedure is conducted in accordance with IEC 60068-2-38, test Z/AD. The DUT is placed in a humidity chamber and subjected to 10 temperature-humidity cycles, each of 24 h duration. During any five of the first nine cycles after exposure to the humidity subcycle, the DUT shall be subjected to cold.