INTERNATIONAL STANDARD

IEC 61300-2-48

First edition
2003-01

Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –

Part 2-48: Tests – Temperature-humidity cycling

Dispositifs d'interconnexion et composants passifs à fibres optiques – Méthodes fondamentales d'essais et de mesures –

Partie 2-48: Essais – Cycle de température et d'humidité

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-48: Tests – Temperature-humidity cycling

FOREWORD

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International Standard IEC 61300-2-48 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/1761/FDIS	86B/1810/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.

IEC 61300 consists of the following parts, under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*:

– Part 1: General and guidance
– Part 2: Tests
– Part 3: Examinations and measurements

The committee has decided that the contents of this publication will remain unchanged until 2006. At this date, the publication will be

– reconfirmed;
– withdrawn;
– replaced by a revised edition, or
– amended.

The contents of the corrigendum of April 2004 have been included in this copy.

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

Part 2-48: Tests – Temperature-humidity cycling

1 Scope

This part of IEC 61300 details a procedure for determining the suitability of a fibre optic device or closure to withstand variations in humidity and temperature that may occur during operation, storage and/or transport. The test is intended to indicate the performance of such devices when exposed to heat and humidity followed by short-term freezing.

In general terms, this test provides a high temperature to induce potential failures due to softening and expansion, a high humidity to encourage moisture absorption and swelling and a low temperature to facilitate ice formation, embrittlement and contraction.

This test differs from other cyclic environmental tests, notably the damp heat cyclic test of IEC 61300-2-46 and the composite temperature-humidity cyclic test of 61300-2-21, by incorporating alternative levels of severity. This is achieved through

a) a greater number of cycles;

b) a greater cyclic temperature range;

c) a decreased cyclic period.

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

3 General description

The specimen is placed in an environmental chamber and subjected to a number of temperature-humidity cycles, as defined in the relevant specification. The attenuation of the specimen is monitored throughout the duration of the test.