SLOVENSKI STANDARD
SIST EN 61300-2-2:1999

01-maj-1999

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-2: Tests - Mating durability (IEC 61300-2-2:1995)

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Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren -- Teil 2-2: Prüfungen: Mechanische Lebensdauer

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures -- Partie 2-2: Essais - Durabilité de l'accouplement

Ta slovenski standard je istoveten z: **EN 61300-2-2:1997**

ICS:

33.180.20	Povezovalne naprave za optiļ na vlakna	Fibre optic interconnecting devices

SIST EN 61300-2-2:1999 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61300-2-2

July 1997

ICS 33.180.20

English version

Fibre optic interconnecting devices and passive components Basic test and measurement procedures Part 2-2: Tests - Mating durability (IEC 61300-2-2:1995)

Dispositifs d'interconnexion et composants passifs à fibres optiques Méthodes fondamentales d'essais et de mesures Partie 2-2: Essais - Durabilité de l'accouplement (CEI 61300-2-2:1995)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren Teil 2-2: Prüfungen: Mechanische Lebensdauer (IEC 61300-2-2:1995)

This European Standard was approved by CENELEC on 1997-07-01. 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.

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CENELEC

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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Ref. No. EN 61300-2-2:1997 E

Foreword

The text of the International Standard IEC 61300-2-2:1996, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the formal vote and was approved by CENELEC as EN 61300-2-2 on 1997-07-01 without any modification.

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) 1998-06-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-06-01

Endorsement notice

The text of the International Standard IEC 61300-2-2:1995 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE

INTERNATIONAL STANDARD

CEI
IEC
1300-2-2

Première édition
First edition
1995-06

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

Partie 2-2:
Essais – Durabilité de l'accouplement

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

Part 2-2:
Tests – Mating durability

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE E

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-2: Tests – Mating durability

FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international cooperation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.

2) The formal decisions or agreements of the IEC on technical matters, prepared by technical committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.

3) They have the form of recommendations for international use published in the form of standards, technical reports or guides and they are accepted by the National Committees in that sense.

4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.

International Standard IEC 1300-2-2 has been prepared by sub-committee 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:

DIS	Report on voting
86B/531/DIS	86B/615/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.

IEC 1300 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

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

Part 2-2: Tests – Mating durability

1 General

1.1 *Scope and object*

The purpose of this part of IEC 1300 is to evaluate the effects of a number of successive cycles of engagement and separation of fibre optic connectors or other interconnecting devices.

1.2 *General description*

The devices under test (DUT) are subjected to a number of successive cycles of engagement and separation. If more than one coupling mechanism is involved, each cycle of engagement and separation shall be conducted with all other mechanisms properly engaged.

Typical failure modes include, but are not limited to:

a) broken or excessively worn parts;

b) inability to engage or separate properly;

c) damage or wear to seals;

d) breakage, chipping or scratching of the interface;

e) optical degradation.

2 Apparatus

The apparatus shall consist of the following elements:

2.1 *Fixturing*

Suitable clamps, jaws or other means to hold the mating parts of the interconnecting device in proper alignment throughout the test.

2.2 *Force applicator*

A means of applying the force or torque to engage and separate the specimen. The force may be applied manually.

2.3 *Measurement equipment*

Equipment to simultaneously monitor attenuation and return loss.

3 Procedure

3.1 *Initial examinations and measurements*

Perform initial examinations and measurements in accordance with the detail specification.

3.2 *Cycling*

Cycle the test specimen using one of the preferred severities unless otherwise specified in the detail specification. A cycle shall consist of one normal full engagement and separation of the coupling mechanism to be evaluated. The minimum time between each engagement and separation shall be 3 s.

When the specimen involves more than one coupling mechanism, the cycles shall be conducted with all other mechanisms properly engaged. The mating shall be accomplished according to the manufacturer's instructions. The cleaning procedure and frequency shall be specified in the detail specification.

3.3 *Final examinations and measurements*

Unless otherwise specified, examine the devices and their parts in accordance with the requirements of IEC 1300-3-1. When required by the detail specification, other specified examinations or measurements shall be performed.

4 Severity

The severity consists of the number of cycles. The severity shall be specified in the detail specification.

The following preferred severities are non-mandatory severities which may be specified for this procedure:

Number of cycles
50
100
250
500
1 000
2 000
5 000