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**Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-25: Tests - Sealing endurance for closures (IEC 61300-2-25:1995)**

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 2-25: Tests - Sealing endurance for closures

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren -- Teil 2-25: Prüfungen - Dauerprüfung auf Dichtheit von Muffen

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures -- Partie 2-25: Essais - Résistance de l'étanchéité pour les boîtiers

**Ta slovenski standard je istoveten z: EN 61300-2-25:1997**

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**ICS:**

|           |                                        |                                     |
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| 33.180.20 | Povezovalne naprave za optiļ na vlakna | Fibre optic interconnecting devices |
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**SIST EN 61300-2-25:1999**

**en**

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 61300-2-25**

August 1997

ICS 33.180.20

English version

**Fibre optic interconnecting devices and passive components  
Basic test and measurement procedures  
Part 2-25: Tests - Sealing endurance for closures  
(IEC 61300-2-25:1995)**

Dispositifs d'interconnexion et  
composants passifs à fibres optiques  
Méthodes fondamentales d'essais et  
de mesures  
Partie 2-25: Essais - Résistance de  
l'étanchéité pour les boîtiers  
(CEI 61300-2-25:1995)

Lichtwellenleiter - Verbindungselemente  
und passive Bauteile - Grundlegende  
Prüf- und Meßverfahren  
Teil 2-25: Prüfungen: Beständigkeit  
der Dichtung von Muffen  
(IEC 61300-2-25:1995)

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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

### Foreword

The text of the International Standard IEC 61300-2-25:1995, 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 61300-2-25 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 61300-2-25:1995 was approved by CENELEC as a European Standard without any modification.

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**NORME  
INTERNATIONALE  
INTERNATIONAL  
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**CEI  
IEC  
1300-2-25**

Première édition  
First edition  
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**Dispositifs d'interconnexion et composants  
passifs à fibres optiques –  
Méthodes fondamentales d'essais  
et de mesures –**

**Partie 2-25:**

**Essais – Résistance de l'étanchéité pour  
les boîtiers**

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

**Part 2-25:**

**Tests – Sealing endurance for closures**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES  
AND PASSIVE COMPONENTS – BASIC TEST AND  
MEASUREMENT PROCEDURES –**
**Part 2-25: Tests – Sealing endurance for closures**

## 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 organization 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.
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- 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 1300-2-25 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/563/DIS | 86B/650/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 2-25: Tests – Sealing endurance for closures

### 1 General

#### 1.1 Scope and object

The purpose of this part of IEC 1300 is to determine the long-term properties of the sealing system of closures, especially if they are used in pressurized cable networks.

#### 1.2 General description

A number of closures are assembled following the manufacturer's instructions. The specimen are then over pressurized and observed until failure of the seal occurs. Failure is indicated by a decrease in air pressure in the closure. A prediction of the closure seal life at normal operating pressure is made by using the overpressure and time to failure data.

### 2 Apparatus

The apparatus consists of the following elements.

#### 2.1 Pressurizer

A means of pressurizing the closures.

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#### 2.2 Gauges

Gauges with suitable range and resolution to determine a 5 % drop in pressure.

### 3 Procedure

3.1 Pre-condition the specimen if requested by the detail specification.

3.2 At room temperature, assemble a number of specimens, as defined by the detail specification, following the manufacturer's instructions. The ports of the closure shall be sealed with pieces of cable which have been sealed or capped to prevent the escape of air through the cable core.

3.3 Install a pressure gauge in each closure.

3.4 Divide the specimens into a minimum of three groups and pressurize each group to a different value.

3.5 Observe the specimens until a drop in pressure is noted. A decrease in pressure of 5 % is considered to be a failure. The time to failure is recorded for each sample.

3.6 The initial overpressure value and time to failure for each specimen is plotted in a double logarithmic diagram. An example of such a diagram is shown in figure 1. A best fit line (a) is plotted through the failure points. This line (a) can be extrapolated to give an estimated time to failure at a given overpressure.

3.7 A second line (b) parallel to the best fit line (a) can be drawn through the specified overpressure and specified lifetime points to give an estimate of the margin of safety indicated by the test.

#### 4 Severity

The severity is determined by the value of overpressure extrapolated for the specified lifetime. The value shall be well above the pressure value at which the closure is used.

No plotted failure point shall fall below the line (b).

#### 5 Details to be specified

The following details, as applicable, shall be specified in the detail specification:

- Number of groups
- Values of overpressure for each group and the number of specimens at each overpressure
- Maximum value of overpressure
- Lifetime
- Pre-conditioning of specimens, if any
- Deviations from test procedure
- Additional pass/fail criteria

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