

**SLOVENSKI
STANDARD**

SIST EN 61300-2-38:1999

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maj 1999

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-38: Tests - Sealing for pressurized closures of fibre optic devices (IEC 61300-2-38:1995)

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Referenčna številka
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English version

**Fibre optic interconnecting devices and passive components
Basic test and measurement procedures
Part 2-38: Tests - Sealing for pressurized closures of fibre optic devices
(IEC 61300-2-38:1995)**

Dispositifs d'interconnexion et
composants passifs à fibres optiques
Méthodes fondamentales d'essais et
de mesures
Partie 2-38: Essais - Etanchéité pour
les boîtiers pressurisés de dispositifs
à fibres optiques
(CEI 61300-2-38:1995)

Lichtwellenleiter - Verbindungselemente
und passive Bauteile - Grundlegende
Prüf- und Meßverfahren
Teil 2-38: Prüfungen: Dichtheit
druckfester faseroptischer Bauteile
(IEC 61300-2-38:1995)

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.

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.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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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 61300-2-38:1995, 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 61300-2-38 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 61300-2-38:1995 was approved by CENELEC as a European Standard without any modification.

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC
1300-2-38

Première édition
First edition
1995-06

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

Partie 2-38:

**Essais – Etanchéité pour les boîtiers pressurisés
de dispositifs à fibres optiques**

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

Part 2-38:

**Tests – Sealing for pressurized closures
of fibre optic devices**

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

**Part 2-38: Tests – Sealing for pressurized closures
of fibre optic devices**

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 1300-2-38 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/560/DIS	86B/637/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.

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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 2-38: Tests – Sealing for pressurized closures
of fibre optic devices**

1 General

1.1 Scope and object

The purpose of this part of IEC 1300 is to test the airtightness of a closure of fibre optic devices.

1.2 General description

The specimen is sealed, pressurized and tested for leaks. Two methods are described. Method A tests for leaks when the specimen is pressurized and submerged in a water bath while method B tests for leaks at standard conditions using a gauge.

2 Apparatus

The apparatus consists of the following elements.

2.1 Cable

Suitable cable to assemble the specimen.

2.2 Capillary gas connections

Capillary gas connections suitable for fitting into the specimen or cable to allow the specimen to be pressurized.

2.3 Pressure gauge

A gauge to measure the pressure inside the closures.

2.4 Water bath

Water bath for method A.

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3 Procedure

3.1 Method A

- 3.1.1 Assemble the specimen using the largest cable for which the specimen is designed.
- 3.1.2 Install the pressure gauge into the specimen or cable.
- 3.1.3 Seal the cable ends at their extremities.
- 3.1.4 Pressurize the cable.

3.1.5 Submerge the specimen and cable in a water bath at room temperature ($23\text{ °C} \pm 2\text{ °C}$). No bubbles indicating a leakage shall be observed during the test.

3.2 Method B

3.2.1 Assemble the specimen using the largest cable for which the specimen is designed.

3.2.2 Install the pressure gauge into the specimen or cable.

3.2.3 Seal the cable ends at their extremities.

3.2.4 Pressurize the cable.

3.2.5 With the specimen at room temperature ($23\text{ °C} \pm 2\text{ °C}$), the air pressure shall be monitored using the installed gauge. A record of air pressure versus time shall be kept and plotted. The pressure in the specimen shall not decay more than the specified amount.

4 Severity

The severity is determined by the initial pressure, the time duration for the test, and the allowable leakage or pressure decay during the test. The following preferred severities may be specified for this procedure.

4.1 The test overpressure for specimens for unpressurized systems is 30 kPa.

4.2 The test overpressure for specimens for pressurized systems is 50 kPa.

5 Details to be specified

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

- Type and length of cable to be used in the test
- The procedure for mounting the specimen
- Duration of test
- Method of leak detection (method A or B)
- Allowable leakage for method A
- Allowable pressure decay for method B
- Water head (method A)
- Deviations from test procedure
- Additional pass/fail criteria

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