SLOVENSKI STANDARD

SIST EN 61300-2-12:1999

prva izdaja
maj 1999

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-12: Tests – Impact (IEC 61300-2-12:1995)

ICS 33.180.20

Referenčna številka
SIST EN 61300-2-12:1999(en)

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 61300-2-12

July 1997

ICS 33.180.20

English version

Fibre optic interconnecting devices and passive components Basic test and measurement procedures Part 2-12: Tests - Impact (IEC 61300-2-12:1995)

Dispositifs d'interconnexion et composants passifs à fibres optiques Méthodes fondamentales d'essais et de mesures Partie 2-12: Essais - Impact (CEI 61300-2-12:1995)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren Teil 2-12: Prüfungen - Schlag (IEC 61300-2-12:1995)

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.

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 61300-2-12:1997 E

Foreword

The text of the International Standard IEC 61300-2-12:1995, 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 61300-2-12 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 61300-2-12:1995 was approved by CENELEC as a European Standard without any modification.

NORME INTERNATIONALE
INTERNATIONAL STANDARD

CEI
IEC
1300-2-12

Première édition
First edition
1995-07

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

Partie 2-12: Essais – Impact

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

Part 2-12: Tests – Impact

Bureau Central de la Commission Electrotechnique Internationale 3, rue de Varembé Genève, Suisse

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
PRICE CODE G

Pour prix, voir catalogue en vigueur
For price, see current catalogue

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

Part 2-12: Tests – Impact

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 1300-2-12 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/540/DIS	86B/643/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 2-12: Tests – Impact

1 General

1.1 *Scope and object*

The purpose of this part of IEC 1300 is to evaluate the ability of a fibre optic device to withstand impacts likely to be encountered during usage. The impact may be a localized impact, a series of impacts with hard objects, or an impact normally associated with dropping the device.

1.2 *General description*

Two methods are described, drop and hammer drop. In method A, a specimen with an attached length of cable is freely swung in a pendular motion and allowed to strike an impact surface. In method B, a hammer with a semi-cylindrical face is dropped on the specimen which is placed on an anvil.

2 Apparatus

The apparatus consists of the following elements.

2.1 *Method A*

2.1.1 *Attaching fixture*

The fixture shall be capable of being mounted on any convenient, rigid, vertical structure. A swivel shall be provided for attaching the cable to the fixture in such a manner as to allow it to swing freely from a horizontal to a vertical position. An example of a suitable set-up is shown in figure 1.

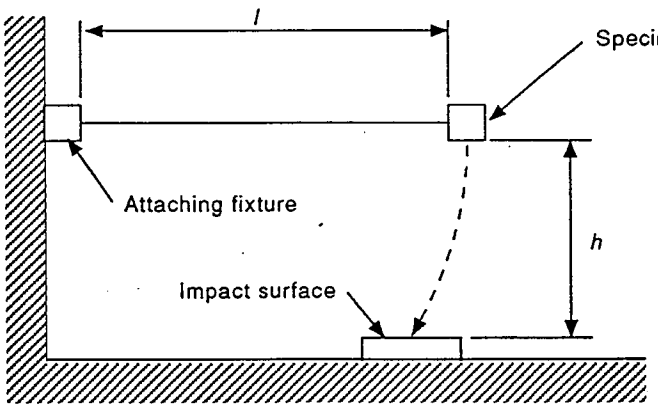

Figure 1 - Method A apparatus

2.1.2 *Surface plate*

The impact surface shall be a steel plate at least 300 mm x 500 mm x 25 mm thick.

2.2 *Method B*

2.2.1 *Anvil*

An anvil of specified hardness.

2.2.2 *Drop hammer*

A drop hammer of adjustable mass with a semi-cylindrical face of Rockwell Rb 90 hardness.

2.2.3 *Drop apparatus*

An apparatus to raise and drop the hammer. An example is shown in figure 2. It consists of a driven crank coupled to the hammer by means of a cord and pulley.

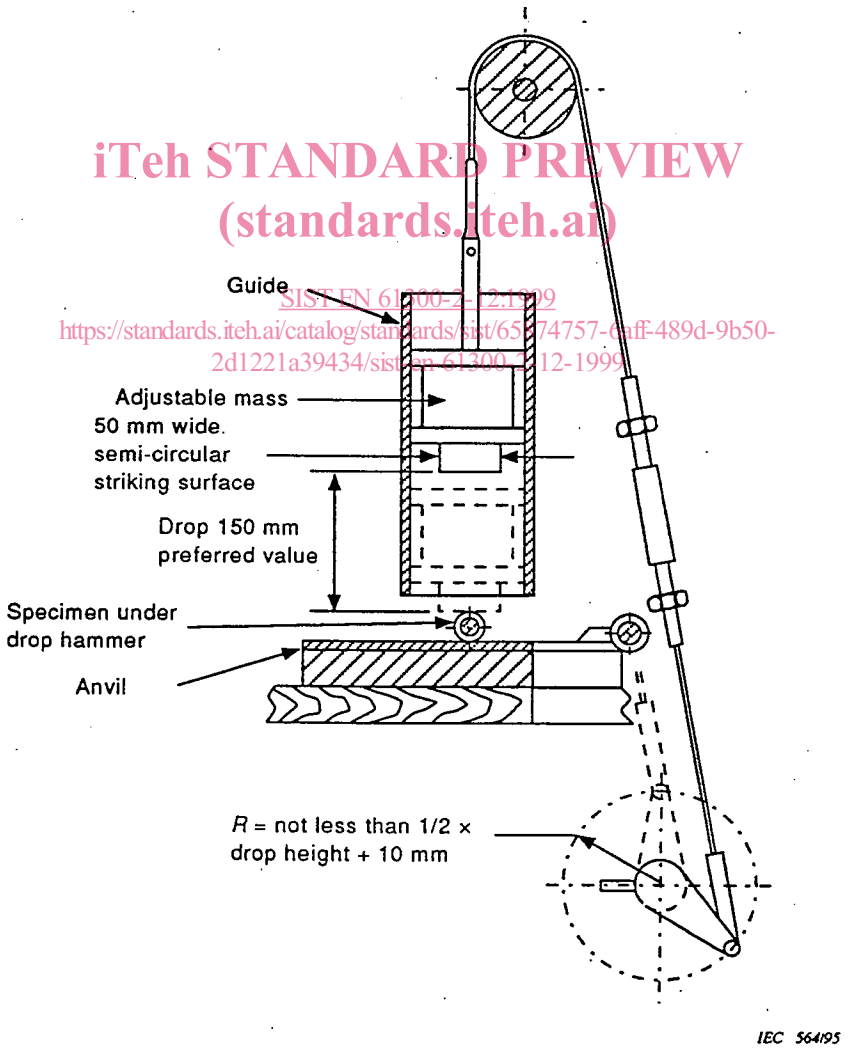

Figure 2 - Method B apparatus

3 Procedure

3.1 *Method A*

3.1.1 Attach the cable clamping fixture at a height h from the impact surface. The height h shall be specified in the detail specification.

3.1.2 Attach the cable to the attachment fixture at a distance of 2 m from the specimen so that the specimen may swing freely from a horizontal to a vertical position.

3.1.3 Hold the specimen in a horizontal position as shown and allow it to drop on to the impact surface. If the specimen altitude is important, it shall be specified in the detail specification.

3.1.4 Repeat the cycle the specified number of times.

3.2 *Method B*

3.2.1 Place the specimen on the anvil in the specified position and orientation.

3.2.2 Adjust the hammer mass to the specified value.

3.2.3 Raise and drop the hammer from 150 mm above the anvil.

4 Severity

4.1 *Method A*

The severity consists of the combination of the number of drops and the height of drop.

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

Number of drops
1
5
10
25
50

Drop height mm
500
750
1 000
1 500
1 750
2 000

4.2 *Method B*

The severity consists of the combination of the radius of the hammer face, the mass of the hammer and the number of impacts. The severity shall be specified in the detail specification.