



SLOVENSKI STANDARD SIST EN 61300-3-34:1999

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Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-34: Examinations and measurements - Attenuation of random mated connectors (IEC 61300-3-34:1997)

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Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Meßverfahren -- Teil 3-34: Untersuchungen und Messungen - Dämpfung von wahlfrei zusammengefügtten Steckverbindern

Dispositifs d'interconnexion et composants passifs à fibres optiques - Méthodes fondamentales d'essais et de mesures -- Partie 3-34: Examens et mesures - Affaiblissement dû à l'accouplement de connecteurs quelconques

Ta slovenski standard je istoveten z: EN 61300-3-34:1997

ICS:

33.180.20 Ú[ç^: [çæ) ^Á æ |æ^Á æ Fibre optic interconnecting devices
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EUROPEAN STANDARD
 NORME EUROPÉENNE
 EUROPÄISCHE NORM

EN 61300-3-34

October 1997

ICS 33.180.20

English version

**Fibre optic interconnecting devices and passive components
 Basic test and measurement procedures
 Part 3-34: Examinations and measurements
 Attenuation of random mated connectors
 (IEC 61300-3-34:1997)**

Dispositifs d'interconnexion et
 composants passifs à fibres optiques
 Méthodes fondamentales d'essais et
 de mesures
 Partie 3-34: Examens et mesures
 Affaiblissement dû à l'accouplement
 de connecteurs quelconques
 (CEI 61300-3-34:1997)

Lichtwellenleiter - Verbindungselemente
 und passive Bauteile - Grundlegende
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 (IEC 61300-3-34:1997)

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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

Foreword

The text of document 86B/984/FDIS, future edition 1 of IEC 61300-3-34, prepared by SC 86B, Fibre optic interconnecting devices and passive components, of IEC TC 86, Fibre optics, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61300-3-34 on 1997-10-01.

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) 1998-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1998-07-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61300-3-34:1997 was approved by CENELEC as a European Standard without any modification.

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1997-10-01

Annex ZA (normative)**Normative references to international publications
with their corresponding European publications**

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE: When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61300-1	1995	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures Part 1: General and guidance	EN 61300-1 ¹⁾	1997

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1) EN 61300-1 includes corrigendum March 1995 to IEC 61300-1.

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**NORME
INTERNATIONALE**

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STANDARD**

61300-3-34

Première édition
First edition
1997-09

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

**Partie 3-34:
Examens et mesures – Affaiblissement dû
à l'accouplement de connecteurs quelconques**

SIST EN 61300-3-34:1999

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

**Part 3-34:
Examinations and measurements –
Attenuation of random mated connectors**

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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 3-34: Examinations and measurements –
Attenuation of random mated connectors**

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 co-operation 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 express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are 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.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61300-3-34 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/984/FDIS	86B/1020/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 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: Examination and measurements

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

Part 3-34: Examinations and measurements – Attenuation of random mated connectors

1 General

1.1 Scope and object

The object of this part of IEC 61300 is to describe a measurement procedure to evaluate the decrease in optical power expressed in decibels, which results when a patchcord connector set, with like connectors at both ends, is randomly inserted into a length of optical fibre. The measured parameter is the attenuation, sometimes designated as insertion loss of the component. For this measurement standard reference connector sets are not required.

1.2 General description

Two methods are described in the measurement procedure, both based on the use of an optical power meter (an optical detector and associated electronics for processing the signal). They provide an estimate of the expected average performance that a group of patchcords (including adaptor if applicable) selected from a batch will exhibit when placed in a working optical system. Plugs and adaptor should be randomly selected so that the measurement provides a statistically unbiased estimate.

Either method may be considered as a reference method for the measurement of the attenuation of a random connector assembly formed between two patchcords.

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1.2.1 Launch conditions

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Unless otherwise specified, the launch conditions shall be in accordance with annex B of IEC 61300-1. It shall be compatible with the component being measured, and shall be specified in the detail specification.

NOTE – Due to their long coherence length, laser source units create a speckle pattern across the core of a multimode fibre which is unstable and which may render difficult or impossible the task of creating Case 1) or Case 2) launch conditions in a multimode component. Consequently, laser sources should be avoided in favour of LED's or other incoherent source units for measuring multimode components.

1.2.2 Precautions

The following test requirements shall be met.

- 1) The power in the fibre shall not be at a level high enough to generate non-linear scattering effects.
- 2) In multimode measurements a change in modal distribution at the component interface may affect the attenuation measurement.
- 3) The position of the fibre in the test should be fixed between the measurements of reference power and of power with the connector installed to avoid changes in attenuation due to bending loss.