Irish Standard
I.S. EN 61300-3-34:2009

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures -- Part 3-34: Examinations and measurements - Attenuation of random mated connectors (IEC 61300-3-34:2009 (EQV))

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NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W **NSAI.ie**

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Price Code:
F

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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 61300-3-34:2009)

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 61300-3-34:2009)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 3-34: Untersuchungen und Messungen - Dämpfung von wahlfrei zusammengefügten Steckverbindern (IEC 61300-3-34:2009)

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CENELEC

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

Central Secretariat: avenue Marnix 17, B - 1000 Brussels

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Foreword

The text of document 86B/2767/FDIS, future edition 3 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 61300-2-34 on 2009-02-01.

This European Standard supersedes EN 61300-3-34:2002.

Changes from EN 61300-3-34:2002 are to reconsider launch conditions for multimode fibres.

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)	2009-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61300-3-34:2009 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

Publication	Year	Title	EN/HD	Year
IEC 61300-1	-[1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	2003[2)]
IEC 61300-3-1	-[1)]	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	2005[2)]

[1)] Undated reference.

[2)] Valid edition at date of issue.

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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

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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.

This third edition cancels and replaces the second edition published in 2001. It constitutes a technical revision. Changes from the previous edition of the document are to reconsider launch conditions for multimode fibres.

The text of this standard is based on the following documents:

FDIS	Report on voting
86B/2767/FDIS	86B/2800/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.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts of IEC 61300 series, published under the general title, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures* can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

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

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

1 Scope

This part of IEC 61300 describes the procedure required to measure the statistical distribution and mean attenuation for random mated optical connectors.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 61300-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 1: General and guidance*

IEC 61300-3-1, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3-1: Examinations and measurements – Visual examination*

3 General description

3.1 Test methods

Two test methods are described for measuring the attenuation of random mated optical connectors. Both provide an estimate of the expected average performance that a group of patchcords (including adaptors, if applicable) selected from a batch will exhibit when utilised in an optical system. The patchcords, and any adaptors, must be chosen at random to ensure that the measurements provide a statistically unbiased estimate.

Method 1 describes the procedure based on the use of 10 patchcords (20 optical connectors) and 10 adaptors. In this case all of the plugs are sequentially used as “reference” plugs and all of the remaining plugs are tested against them. The result is based on 360 measurements as indicated in the test matrix shown in Figure 3.

Method 1 is intended to be part of a design approval exercise that may involve one or more suppliers. Once approval is achieved, Method 2 would be relied on to maintain process control. However, in the event of a dispute, Method 1 shall act as the reference measurement method.

Method 2 describes a procedure based on the measurement of 15 patchcords.

Five patchcords are selected as “reference” patchcords, with one plug on each of the patchcords being nominated as a “reference” plug. All plugs of the remaining 10 patchcords are then tested against each of the five “reference” plugs. This produces 100 measurements as indicated in the test matrix shown in Figure 6.