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Irish Standard
I.S. EN IEC 60793-1-40:2019

Optical fibres - Part 1-40: Attenuation measurement methods

I.S. EN IEC 60793-1-40:2019

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National Foreword

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NORME EUROPÉENNE
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EN IEC 60793-1-40

May 2019

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Supersedes EN 60793-1-40:2003

English Version

**Optical fibres - Part 1-40: Attenuation measurement methods
(IEC 60793-1-40:2019)**

Fibres optiques - Partie 1-40: Méthodes de mesurage
d'affaiblissement
(IEC 60793-1-40:2019)

Lichtwellenleiter - Teil 1-40: Messmethoden und
Prüfverfahren - Dämpfung
(IEC 60793-1-40:2019)

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EN IEC 60793-1-40:2019 (E)

European foreword

The text of document 86A/1909/FDIS, future edition 2 of IEC 60793-1-40, prepared by SC 86A "Fibres and cables" of IEC/TC 86 "Fibre optics" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60793-1-40:2019.

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- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022-05-01

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Annex ZA

(normative)

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NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60793-1-1	-	Optical fibres - Part 1-1: Measurement methods and test procedures - General and guidance	EN 60793-1-1	-
IEC 60793-1-22	-	Optical fibres - Part 1-22: Measurement methods and test procedures - Length measurement	EN 60793-1-22	-
IEC 60793-1-43	-	Optical fibres - Part 1-43: Measurement methods and test procedures - Numerical aperture measurement	EN 60793-1-43	-
IEC 61746-1	-	Calibration of optical time-domain reflectometers (OTDR) - Part 1: OTDR for single mode fibres	EN 61746-1	-
IEC 61746-2	-	Calibration of optical time-domain reflectometers (OTDR) - Part 2: OTDR for multimode fibres	EN 61746-2	-

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IEC 60793-1-40

Edition 2.0 2019-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Optical fibres –
Part 1-40: Attenuation measurement methods**

**Fibres optiques –
Partie 1-40: Méthodes de mesurage de l'affaiblissement**



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IEC 60793-1-40

Edition 2.0 2019-03

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Optical fibres –
Part 1-40: Attenuation measurement methods**

**Fibres optiques –
Partie 1-40: Méthodes de mesurage de l'affaiblissement**

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CONTENTS

FOREWORD	5
1 Scope	7
2 Normative references	7
3 Terms and definitions	8
4 Calibration requirements.....	9
5 Reference test method	9
6 Apparatus.....	9
7 Sampling and specimens	9
7.1 Specimen length	9
7.2 Specimen end face	9
8 Procedure.....	9
9 Calculations.....	9
9.1 Methods A and B	9
9.2 Method C	9
9.3 Method D	9
10 Results	9
10.1 Information available with each measurement	9
10.2 Information available upon request	10
10.3 Method-specific additional information	10
11 Specification information	10
Annex A (normative) Requirements specific to method A – Cut-back	11
A.1 General.....	11
A.2 Apparatus	11
A.2.1 General apparatus for all fibres.....	11
A.2.2 Launch apparatus for all single-mode fibres.....	13
A.2.3 Launch apparatus for A1 multimode fibres	14
A.2.4 Launch apparatus for A2 to A4 multimode fibres	16
A.2.5 Calibration requirements.....	17
A.3 Procedure	18
A.4 Calculations	18
Annex B (normative) Requirements specific to method B – Insertion loss.....	19
B.1 General.....	19
B.2 Apparatus	19
B.2.1 General set-ups	19
B.2.2 Apparatus common to method A (cut-back).....	19
B.2.3 Additional apparatus specific to method B (insertion-loss)	19
B.2.4 Calibration requirements.....	19
B.3 Procedure	19
B.4 Calculations	20
Annex C (normative) Requirements specific to method C – Backscattering	21
C.1 General.....	21
C.2 Apparatus	21
C.2.1 General	21
C.2.2 Optical transmitter	22
C.2.3 Launch conditions.....	22

C.2.4	Optical splitter	22
C.2.5	Optical receiver	22
C.2.6	Pulse duration and repetition rate	22
C.2.7	Signal processor.....	22
C.2.8	Display	23
C.2.9	Data interface (optional)	23
C.2.10	Reflection controller (optional).....	23
C.2.11	Splices and connectors.....	23
C.3	Sampling and specimens	23
C.4	Procedure	23
C.4.1	General	23
C.4.2	Further steps for measuring attenuation.....	25
C.4.3	Further steps for measuring point discontinuities	25
C.4.4	Calibration	27
C.5	Calculations	27
C.6	Results	27
Annex D (normative) Requirements specific to method D – Spectral attenuation modelling		28
D.1	General.....	28
D.2	Apparatus	28
D.3	Sampling and specimens	28
D.4	Procedure	28
D.5	Calculations	29
D.6	Results	29
Annex E (informative) Examples of short cable test results on A1 multimode fibres		31
Bibliography.....		33
Figure A.1 – Arrangement of equipment for loss measurement at a specified wavelength		11
Figure A.2 – Arrangement of equipment used to obtain loss spectrum		12
Figure A.3 – General launch arrangement.....		12
Figure A.4 – Limited phase space launch optics.....		15
Figure A.5 – Two examples of optical fibre scramblers.....		16
Figure A.6 – Lens system		16
Figure A.7 – Launch fibre.....		17
Figure A.8 – Mode scrambler (for A.4 fibre)		17
Figure A.9 – A wide-spectrum source (line "b") could lead to attenuation measurement errors due to sharp variations on spectral attenuation of polymer-core fibres (line "a").....		18
Figure B.1 – Calibration of insertion loss measurement set		20
Figure B.2 – Measurement of insertion loss		20
Figure C.1 – Block diagram of an OTDR		21
Figure C.2 – Schematic OTDR trace for a "uniform" specimen preceded by a dead-zone fibre		24
Figure C.3 – Schematic OTDR trace for a "uniform" specimen not preceded by a dead-zone fibre		24
Figure C.4 – Schematic OTDR trace showing apparent loss due to point discontinuities, one reflective and one non-reflective		26

Figure C.5 – Schematic of an expanded OTDR trace showing two point discontinuities, one with apparent gain, and another with no apparent loss or gain	26
Figure E.1 – Example of attenuation coefficient tests on A1a.1 fibre	31
Figure E.2 – Example of attenuation coefficient tests on A1a.3 fibre	31
Figure E.3 – Example of attenuation coefficient tests on A1b fibre	32
Table A.1 – Size examples	15
Table A.2 – Launch conditions for A2 to A4 fibres	16

INTERNATIONAL ELECTROTECHNICAL COMMISSION

OPTICAL FIBRES –

Part 1-40: Attenuation measurement methods

FOREWORD

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International Standard IEC 60793-1-40 has been prepared by subcommittee 86A: Fibres and cables, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2001. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) Improvement of the description of measurement details for B6 fibre;
- b) Improvement of the calibration requirements for A4 fibre;
- c) Introduction of Annex E describing examples of short cable test results on A1 multimode fibres.

The text of this International Standard is based on the following documents:

FDIS	Report on voting
86A/1909/FDIS	86A/1927/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

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

A list of all parts in the IEC 60793 series, published under the general title *Optical fibres*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "<http://webstore.iec.ch>" in the data related to the specific document. At this date, the document will be

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OPTICAL FIBRES –

Part 1-40: Attenuation measurement methods

1 Scope

This part of IEC 60793 establishes uniform requirements for measuring the attenuation of optical fibre, thereby assisting in the inspection of fibres and cables for commercial purposes.

Four methods are described for measuring attenuation, one being that for modelling spectral attenuation:

- method A: cut-back;
- method B: insertion loss;
- method C: backscattering;
- method D: modelling spectral attenuation.

Methods A to C apply to the measurement of attenuation for all categories of the following fibres:

- class A multimode fibres;
- class B single-mode fibres.

Method C, backscattering, also covers the location, losses and characterization of point discontinuities.

Method D is applicable only to class B fibres.

Information common to all four methods appears in Clauses 1 to 11, and information pertaining to each individual method appears in Annexes A, B, C, and D, respectively.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60793-1-1, *Optical fibres – Part 1-1: Measurement methods and test procedures – General and guidance*

IEC 60793-1-22, *Optical fibres – Part 1-22: Measurement methods and test procedures – Length measurement*

IEC 60793-1-43, *Optical fibres – Part 1-43: Measurement methods and test procedures – Numerical aperture measurement*

IEC 61746-1, *Calibration of optical time-domain reflectometers (OTDR) – Part 1: OTDR for single mode fibres*

IEC 61746-2, *Calibration of optical time-domain reflectometers (OTDR) – Part 2: OTDR for multimode fibres*

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