



SLOVENSKI STANDARD

SIST EN IEC 61753-111-09:2021

01-december-2021

Nadomešča:

SIST EN 61753-111-9:2010

**Optični spojni elementi in pasivne komponente - Izvedbeni standard - 111-9. del:
Zatesnjene spojnice - Kategorija S - Podzemna uporaba (IEC 61753-111-9:2021)**

Fibre optic interconnecting devices and passive components - Performance standard -
Part 111-09: Sealed closures - Category S - Subterranean (IEC 61753-111-9:2021)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil
111-9: Druckdichte Muffen für die Kategorie S - unterirdische Verlegung (IEC 61753-111-9:2021)

Dispositifs d'interconnexion et composants passifs à fibres optiques norme de qualité de
fonctionnement - Partie 111-9: Boîtiers scellés pour catégorie S - Souterrain (IEC 61753-111-9:2021)

Ta slovenski standard je istoveten z: EN IEC 61753-111-09:2021

ICS:

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices
-----------	---------------------------------------	-------------------------------------

SIST EN IEC 61753-111-09:2021 en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN IEC 61753-111-09:2021](https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021)

<https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021>

EUROPEAN STANDARD

EN IEC 61753-111-09

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2021

ICS 33.180.20

Supersedes EN 61753-111-9:2010 and all of its
amendments and corrigenda (if any)

English Version

Fibre optic interconnecting devices and passive components -
Performance standard - Part 111-09: Sealed closures - Category
S - Subterranean
(IEC 61753-111-09:2021)

Dispositifs d'interconnexion et composants passifs
fibroniques - Norme de performance - Partie 111-09:
Boîtiers étanches pour la catégorie S - Souterrains
(IEC 61753-111-09:2021)

Lichtwellenleiter - Verbindungselemente und passive
Bauteile - Betriebsverhalten - Teil 111-9: Druckdichte
Muffen für die Kategorie S - unterirdische Verlegung
(IEC 61753-111-09:2021)

This European Standard was approved by CENELEC on 2021-10-19. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN IEC 61753-111-09:2021 (E)**European foreword**

The text of document 86B/4494/FDIS, future edition 1 of IEC 61753-111-09, 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 approved by CENELEC as EN IEC 61753-111-09:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2022-07-19 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2024-10-19 document have to be withdrawn

This document supersedes EN 61753-111-9:2010 and all of its amendments and corrigenda (if any).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

iTeh STANDARD PREVIEW
Endorsement notice
(standards.iteh.ai)

The text of the International Standard IEC 61753-111-09:2021 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60068-1	NOTE Harmonized as EN 60068-1
IEC 60068-2 (series)	NOTE Harmonized as EN IEC 60068-2 (series)
IEC 60721-3-1	NOTE Harmonized as EN IEC 60721-3-1
IEC 60721-3-2	NOTE Harmonized as EN IEC 60721-3-2
IEC 60793-2	NOTE Harmonized as EN IEC 60793-2
IEC 60794-1-2	NOTE Harmonized as EN IEC 60794-1-2
IEC 60794-2	NOTE Harmonized as EN 60794-2
IEC 60794-3	NOTE Harmonized as EN 60794-3
IEC 61300 (series)	NOTE Harmonized as EN 61300 (series)
IEC 62005 (series)	NOTE Harmonized as EN IEC 62005 (series)

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

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 60068-2-10	-	Environmental testing - Part 2-10: Tests - Test J and guidance: Mould growth	EN 60068-2-10	-
IEC 60793-2-50	-	Optical fibres - Part 2-50: Product specifications - Sectional specification for class B single-mode fibres	EN IEC 60793-2-50	-
IEC 61300-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance	EN 61300-1	-
IEC 61300-2-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-1: Tests - Vibration (sinusoidal)	EN 61300-2-1	-
IEC 61300-2-4	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-4: Tests - Fibre or cable retention	EN IEC 61300-2-4	-
IEC 61300-2-5	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-5: Tests - Torsion	EN 61300-2-5	-
IEC 61300-2-9	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-9: Tests - Shock	EN 61300-2-9	-
IEC 61300-2-10	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-10: Tests - Crush and load resistance	EN IEC 61300-2-10	-
IEC 61300-2-11	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-11: Tests - Axial compression	EN 61300-2-11	-

EN IEC 61753-111-09:2021 (E)

IEC 61300-2-12	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-12: Tests - Impact	EN 61300-2-12	-
IEC 61300-2-22	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-22: Tests - Change of temperature	EN 61300-2-22	-
IEC 61300-2-23	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-23: Tests - Sealing for non-pressurized closures of fibre optic devices	EN 61300-2-23	-
IEC 61300-2-26	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-26: Tests - Salt mist	EN 61300-2-26	-
IEC 61300-2-33	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-33: Tests - Assembly and disassembly of fibre optic mechanical splices, fibre management systems and closures	EN 61300-2-33	-
IEC 61300-2-34	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-34: Tests - Resistance to solvents and contaminating fluids of interconnecting components and closures	EN 61300-2-34	-
IEC 61300-2-37	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-37: Tests - Cable bending for fibre optic closures	EN 61300-2-37	-
IEC 61300-2-38	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2-38: Tests - Sealing for pressurized fibre optic closures	EN 61300-2-38	-
IEC 61300-3-1	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-1: Examinations and measurements - Visual examination	EN 61300-3-1	-
IEC 61300-3-3	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-3: Examinations and measurements - Active monitoring of changes in attenuation and return loss	EN 61300-3-3	-
IEC 61300-3-28	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3-28: Examinations and measurements - Transient loss	EN 61300-3-28	-

IEC 61753-1	2018	Fibre optic interconnecting devices and passive components - Performance standard - Part 1: General and guidance	EN IEC 61753-1	2018
IEC 61756-1	2019	Fibre optic interconnecting devices and passive components - Interface standard for fibre management systems - Part 1: General and guidance	EN IEC 61756-1	2020
ISO 4892-3	-	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps	EN ISO 4892-3	-

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN IEC 61753-111-09:2021](https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021)

<https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN IEC 61753-111-09:2021](https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021)

<https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021>



IEC 61753-111-09

Edition 1.0 2021-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE



**Fibre optic interconnecting devices and passive components – Performance standard –
Part 111-09: Sealed closures – Category S – Subterranean**

**Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –
Partie 111-09: Boîtiers étanches pour la catégorie S – Souterrains**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.180.20

ISBN 978-2-8322-1023-4

**Warning! Make sure that you obtained this publication from an authorized distributor.
Attention! Veuillez vous assurer que vous avez obtenu cette publication via un distributeur agréé.**

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Abbreviated terms	11
5 General requirements	11
5.1 Storage, transportation and packaging.....	11
5.2 Installation and intervention	12
5.3 Marking and identification	12
5.4 Materials.....	12
5.5 Safety	13
6 Test.....	13
6.1 General.....	13
6.2 Test sample preparation	13
6.3 Test and measurement methods	14
6.4 Sample size	14
6.5 Pass/fail criteria.....	14
6.6 Test report.....	14
7 Performance requirements.....	15
7.1 Sealing, optical and visual examination pass/fail criteria	15
7.2 Sealing performance requirements.....	16
7.3 Optical performance requirements.....	20
Annex A (normative) Sample definition	23
A.1 Fibre type for test sample	23
A.2 Closure optical test sample configuration	24
Annex B (normative) Intervention and reconfiguration/resplicing	27
B.1 Handling of the closure	27
B.2 Movements of splice trays to gain access to the actual fibre circuits	27
B.3 Addition and connection of drop cables	27
B.4 Rearranging splices	27
B.5 Rearranging optical connector sets, patchcords or pigtails (when applicable).....	28
B.6 Addition and connection of extra FMS elements.....	28
B.7 Handling of the closure	28
Bibliography.....	29
Figure A.1 – Track/spur joint configuration sample.....	24
Figure A.2 – Optical circuits in track/spur joint closure	25
Figure A.3 – Distribution joint configuration sample.....	25
Figure A.4 – Optical circuits in the distribution joint closure	26
Table 1 – Sealing, optical and visual examination pass/fail criteria	15
Table 2 – Sealing performance requirements	16
Table 3 – Optical performance requirements.....	20

Table A.1 – Fibre references for IEC 60793-2-50, sub-category B-652.D	23
Table A.2 – Fibre references for IEC 60793-2-50, sub-category B-657.A1.....	23
Table A.3 – Fibre references for IEC 60793-2-50, sub-category B-657.A2.....	24

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN IEC 61753-111-09:2021](https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021)

<https://standards.iteh.ai/catalog/standards/sist/9b04c9fb-63bc-45a0-9a64-8da62d28616b/sist-en-iec-61753-111-09-2021>

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING DEVICES AND
PASSIVE COMPONENTS – PERFORMANCE STANDARD –****Part 111-09: Sealed closures – Category S – Subteranean**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. 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 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 IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC itself does not provide any attestation of conformity. Independent certification bodies provide conformity assessment services and, in some areas, access to IEC marks of conformity. IEC is not responsible for any services carried out by independent certification bodies.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

IEC 61753-111-09 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics. It is an International Standard.

This first edition cancels and replaces IEC 61753-111-9 published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-111-9:

- a) terms and definitions updated according to IEC 61753-1:2018 and IEC 61756-1:2019;
- b) detailed test severities added for UV light and fungus resistance tests of materials;
- c) test severities updated according to IEC 61753-1:2018;
- d) laboratory test conditions harmonized with IEC 61300-1 to +23 °C ± 5 °C, unless otherwise specified;