This document is a preview generated by EVS

Fibre optic interconnecting devices and passive components - Performance standard - Part 111-07: Sealed closures - Category A - Aerial

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

This document is a preview generated by EVS

See Eesti standard EVS-EN IEC 61753-111-07:2021 sisaldab Euroopa standardi EN IEC 61753-111-07:2021 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 61753-111-07:2021 consists of the English text of the European standard EN IEC 61753-111-07:2021.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 15.10.2021.	Date of Availability of the European standard is 15.10.2021.
Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 33.180.20

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardimis- ja Akrediteerimiskeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardimis- ja Akrediteerimiskeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autoriõiguse kaitse kohta, võtke palun ühendust Eesti Standardimis- ja Akrediteerimiskeskusega: Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation and Accreditation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation and Accreditation.

If you have any questions about standards copyright protection, please contact the Estonian Centre for Standardisation and Accreditation: Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 61753-111-07

October 2021

ICS 33.180.20

Supersedes EN 61753-111-7:2010 and all of its amendments and corrigenda (if any)

English Version

Fibre optic interconnecting devices and passive components - Performance standard - Part 111-07: Sealed closures - Category A - Aerial (IEC 61753-111-07:2021)

Dispositifs d'interconnexion et composants passifs fibroniques - Norme de performance - Partie 111-07: Boîtiers étanches pour la catégorie A - Aériens (IEC 61753-111-07:2021)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Betriebsverhalten - Teil 111-07: Druckdichte Muffen für die Kategorie A - Luftverlegung (IEC 61753-111-07:2021)

This European Standard was approved by CENELEC on 2021-10-08. 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

© 2021 CENELEC All rights of exploitation in any form and by any means reserved worldwide for CENELEC Members.

This document is a preview generated by EVS

European foreword

The text of document 86B/4493/FDIS, future edition 1 of IEC 61753-111-07, 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 61753-111-07:2021.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2022–07–08
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2022–10–08

This document supersedes EN 61753-111-7:2010 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.

Endorsement notice

The text of the International Standard IEC 61753-111-07:2021 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 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)

This document is a preview generated by EVS

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

This document is automatically generated by EVS

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.

Publication	Year	Title	EN/HD	Year
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 61300-2-11	-	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2–11: Tests - Axial compression	EN 61300-2-11	-
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 61300-2-26	-	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

This document is a preview generated by EVS

ISO 4892-3	-	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps	EN ISO 4892-3	-

This document is a preview generated by EVS

IEC 61753-111-07

Edition 1.0 2021-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

This document is a preview generated by EVS

Fibre optic interconnecting devices and passive components – Performance standard – Part 111-07: Sealed closures – Category A – Aerial

Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance – Partie 111-07: Boîtiers étanches pour la catégorie A – Aériens



IEC 61753-111-07:2021-09(en-fr)

THIS PUBLICATION IS COPYRIGHT PROTECTED
Copyright © 2021 IEC, Geneva, Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either IEC or IEC's member National Committee in the country of the requester. If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

Droits de reproduction réservés. Sauf indication contraire, aucune partie de cette publication ne peut être reproduite ni utilisée sous quelque forme que ce soit et par aucun procédé, électronique ou mécanique, y compris la photocopie et les microfilms, sans l'accord écrit de l'IEC ou du Comité national de l'IEC du pays du demandeur. Si vous avez des questions sur le copyright de l'IEC ou si vous désirez obtenir des droits supplémentaires sur cette publication, utilisez les coordonnées ci-après ou contactez le Comité national de l'IEC de votre pays de résidence.

IEC Central Office
3, rue de Varembé
CH-1211 Geneva 20
Switzerland

Tel.: +41 22 919 02 11
info@iec.ch
www.iec.ch

About the IEC
The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications
The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigendum or an amendment might have been published.

IEC publications search - webstore.iec.ch/advsearchform
The advanced search enables to find IEC publications by a variety of criteria (reference number, text, technical committee, …). It also gives information on projects, replaced and withdrawn publications.

IEC Just Published - webstore.iec.ch/justpublished
Stay up to date on all new IEC publications. Just Published details all new publications released. Available online and once a month by email.

IEC Customer Service Centre - webstore.iec.ch/csc
If you wish to give us your feedback on this publication or need further assistance, please contact the Customer Service Centre: sales@iec.ch.

IEC online collection - oc.iec.ch
Discover our powerful search engine and read freely all the publications previews. With a subscription you will always have access to up to date content tailored to your needs.

Electropedia - www.electropedia.org
The world's leading online dictionary on electrotechnology, containing more than 22 000 terminological entries in English and French, with equivalent terms in 18 additional languages. Also known as the International Electrotechnical Vocabulary (IEV) online.

A propos de l'IEC
La Commission Electrotechnique Internationale (IEC) est la première organisation mondiale qui élabore et publie des Normes internationales pour tout ce qui a trait à l'électricité, à l'électronique et aux technologies apparentées.

A propos des publications IEC
Le contenu technique des publications IEC est constamment revu. Veuillez vous assurer que vous possédez l'édition la plus récente, un corrigendum ou amendement peut avoir été publié.

Recherche de publications IEC - webstore.iec.ch/advsearchform
La recherche avancée permet de trouver des publications IEC en utilisant différents critères (numéro de référence, texte, comité d'études, …). Elle donne aussi des informations sur les projets et les publications remplacées ou retirées.

IEC Just Published - webstore.iec.ch/justpublished
Restez informé sur les nouvelles publications IEC. Just Published détaille les nouvelles publications parues. Disponible en ligne et une fois par mois par email.

Service Clients - webstore.iec.ch/csc
Si vous désirez nous donner des commentaires sur cette publication ou si vous avez des questions contactez-nous: sales@iec.ch.

IEC online collection - oc.iec.ch
Découvrez notre puissant moteur de recherche et consultez gratuitement tous les aperçus des publications. Avec un abonnement, vous aurez toujours accès à un contenu à jour adapté à vos besoins.

Electropedia - www.electropedia.org
Le premier dictionnaire d'électrotechnologie en ligne au monde, avec plus de 22 000 articles terminologiques en anglais et en français, ainsi que les termes équivalents dans 16 langues additionnelles. Egalement appelé Vocabulaire Electrotechnique International (IEV) en ligne.

This document is a preview generated by EVS

IEC 61753-111-07

Edition 1.0 2021-09

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Fibre optic interconnecting devices and passive components – Performance standard –
Part 111-07: Sealed closures – Category A – Aerial

Dispositifs d'interconnexion et composants passifs fibroniques – Norme de performance –
Partie 111-07: Boîtiers étanches pour la catégorie A – Aériens

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

ICS 33.180.20

ISBN 978-2-8322-1023-3

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.

® Registered trademark of the International Electrotechnical Commission
Marque déposée de la Commission Electrotechnique Internationale

This document is a preview generated by EVS

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 11
5.3 Marking and identification 12
5.4 Materials 12
5.5 Safety 12
6 Test 13
6.1 General 13
6.2 Test sample preparation 13
6.3 Test and measurement methods 13
6.4 Sample size 13
6.5 Pass/fail criteria 14
6.6 Test report 14
7 Performance requirements 14
7.1 Sealing, optical and visual examination pass/fail criteria 14
7.2 Sealing performance requirements 16
7.3 Optical performance requirements 18
Annex A (normative) Sample definition 21
A.1 Fibre type for test sample 21
A.2 Closure optical test sample configuration 22
Annex B (normative) Intervention and reconfiguration/resplicing 25
B.1 Handling of the closure 25
B.2 Movements of splice trays to gain access to the actual fibre circuits 25
B.3 Addition and connection of drop cables 25
B.4 Rearranging splices 25
B.5 Rearranging optical connector sets, patchcords or pigtails (when applicable) 26
B.6 Addition and connection of extra FMS elements 26
B.7 Handling of the closure 26
Bibliography 27

Figure A.1 – Track/spur joint configuration sample 22
Figure A.2 – Optical circuits in track/spur joint closure 23
Figure A.3 – Distribution joint configuration sample 23
Figure A.4 – Optical circuits in the distribution joint closure 24

Table 1 – Sealing, optical and visual examination pass/fail criteria 15
Table 2 – Sealing performance requirements 16
Table 3 – Optical performance requirements 19

This document is a preview generated by EVS

Table A.1 – Fibre references for IEC 60793-2-50, sub-category B-652.D 21
Table A.2 – Fibre references for IEC 60793-2-50, sub-category B-657.A1..... 21
Table A.3 – Fibre references for IEC 60793-2-50, sub-category B-657.A2..... 22

This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

_____

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – PERFORMANCE STANDARD –

Part 111-07: Sealed closures – Category A – Aerial

This document is a preview generated by EVS

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 61753-111-07 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 61753-111-7 published in 2009. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to IEC 61753-111-7:

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) test overpressure for sealing tests changed to 20 kPa;
e) pass-fail criterion of pressure loss during test added to mechanical sealing tests;

f) laboratory test conditions harmonized with IEC 61300-1 to +23 °C ± 5 °C, unless otherwise specified;

g) addition of B-657 fibre types with minimum bending radius of stored fibres according to IEC 61756-1:2019;

h) vibration sealing test changed to 10 Hz, 3 mm amplitude and 1 000 000 cycles;

i) reduced loads added in cable retention test for small diameter cables and tubes;

j) reduced loads for cable axial compression test for small diameter cables and tubes;

k) duration of the cycles in torsion and bending test added;

l) free fall test removed (is covered now by the optical shock test);

m) duration of the assembly and disassembly test reduced to 5 cycles;

n) duration of the change of temperature reduced to 12 cycles.

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

Draft	Report on voting
86B/4493/FDIS	86B/4512/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

A list of all parts of IEC 61753 series, published under the general title *Fibre optic interconnecting devices and passive components – Performance standard*, 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 webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

IMPORTANT – The "colour inside" logo on the cover page of this document indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

This document is a preview generated by EVS