

Fibre optic interconnecting devices and passive components - Fibre optic closures - Part 1: Generic specification

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 62134-1:2009 sisaldab Euroopa standardi EN 62134-1:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.12.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 12.11.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 62134-1:2009 consists of the English text of the European standard EN 62134-1:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.12.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 12.11.2009.

The standard is available from Estonian standardisation organisation.

ICS 33.180.99

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

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

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English version

**Fibre optic interconnecting devices and passive components -
Fibre optic closures -
Part 1: Generic specification
(IEC 62134-1:2009)**

Dispositifs d'interconnexion
et composants passifs à fibres optiques -
Boîtiers à fibres optiques -
Partie 1: Spécification générique
(CEI 62134-1:2009)

Lichtwellenleiter -
Verbindungselemente
und passive Bauteile -
Lichtwellenleitergarnituren -
Teil 1: Fachgrundspezifikation
(IEC 62134-1:2009)

This European Standard was approved by CENELEC on 2009-10-01. 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 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Central Secretariat: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 86B/2846/FDIS, future edition 2 of IEC 62134-1, 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 62134-1 on 2009-10-01.

This European Standard supersedes EN 62134-1:2002.

The main changes with respect to EN 62134-1:2002 are listed below:

- addition and rewording of some terms and definitions;
- reconsideration of type, style and variant in the requirements;
- removal of quality assessment procedures.

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) | 2010-07-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2010-10-01 |

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62134-1:2009 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 61073-1	NOTE Harmonized as EN 61073-1:2009 (not modified).
IEC 61756-1	NOTE Harmonized as EN 61756-1:2006 (not modified).
IEC 61758-1	NOTE Harmonized as EN 61758-1:2008 (not modified).

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60027	Series	Letter symbols to be used in electrical technology	EN 60027	Series
IEC 60050-731	- ¹⁾	International Electrotechnical Vocabulary (IEV) - Chapter 731: Optical fibre communication	-	-
IEC 60068	Series	Environmental testing	EN 60068	Series
IEC 60068-2-10	- ¹⁾	Environmental testing - Part 2-10: Tests - Test J and guidance: Mould growth	EN 60068-2-10	2005 ²⁾
IEC 60617	Data-base	Graphical symbols for diagrams	-	-
IEC 60695	Series	Fire hazard testing	EN 60695	Series
IEC 60695-1-1	- ¹⁾	Fire hazard testing - Part 1-1: Guidance for assessing the fire hazard of electrotechnical products - General guidelines	EN 60695-1-1	2000 ²⁾
IEC 60793-2	- ¹⁾	Optical fibres - Part 2: Product specifications - General	EN 60793-2	2008 ²⁾
IEC 60794-2	- ¹⁾	Optical fibre cables - Part 2: Indoor cables - Sectional specification	EN 60794-2	2003 ²⁾
IEC 60825-1	- ¹⁾	Safety of laser products - Part 1: Equipment classification and requirements	EN 60825-1	2007 ²⁾
IEC 61300-2	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 2: Tests	EN 61300-2	Series
IEC 61300-3	Series	Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 3: Examinations and measurements	EN 61300-3	Series
IEC 61753-1	- ¹⁾	Fibre optic interconnecting devices and passive components performance standard - Part 1: General and guidance for performance standards	EN 61753-1	2007 ²⁾
IEC 61754	Series	Fibre optic connector interfaces	EN 61754	Series
IEC/TR 61930	- ¹⁾	Fibre optic graphical symbology	-	-

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC/TR 61931	- ¹⁾	Fibre optic - Terminology	-	-
IEC 62005	Series	Reliability of fibre optic interconnecting devices and passive components	EN 62005	Series
IEC QC 001002-3	2005	IEC Quality Assessment System for Electronic Components (IECQ) - Rules of Procedure - Part 3: Approval procedures	-	-
ISO 129-1	- ¹⁾	Technical drawings - Indication of dimensions and tolerances - Part 1: General principles	-	-
ISO 286-1	- ¹⁾	ISO system of limits and fits - Part 1: Bases of tolerances, deviations and fits	EN 20286-1	1993 ²⁾
ISO 1101	- ¹⁾	Geometrical Product Specifications (GPS) - Geometrical tolerancing - Tolerances of form, orientation, location and run-out	EN ISO 1101	2005 ²⁾
ISO 4892-3	- ¹⁾	Plastics - Methods of exposure to laboratory light sources - Part 3: Fluorescent UV lamps	EN ISO 4892-3	2006 ²⁾
ISO 8601	- ¹⁾	Data elements and interchange formats - Information interchange - Representation of dates and times	-	-

CONTENTS

FOREWORD.....	4
INTRODUCTION.....	6
1 Scope.....	7
2 Normative references	7
3 Terms and definitions	8
4 Requirements.....	10
4.1 Classification.....	10
4.1.1 General	10
4.1.2 Type.....	10
4.1.3 Style.....	11
4.1.4 Variant	11
4.1.5 Arrangement.....	12
4.1.6 Normative reference extensions	12
4.1.7 Environmental category – Service categories	13
4.2 Documentation	13
4.2.1 Specification system.....	13
4.2.2 Symbols	15
4.2.3 Drawings	15
4.2.4 Measurements.....	15
4.2.5 Tests	15
4.2.6 Test reports.....	16
4.2.7 Instructions for use	16
4.3 Standardisation system	16
4.3.1 Specification standards	16
4.3.2 Interface standards.....	16
4.3.3 Performance standards.....	16
4.3.4 Reliability standards	17
4.4 Design and construction	18
4.4.1 Materials	18
4.5 Workmanship	18
4.6 Quality	18
4.7 Performance.....	19
4.8 Identification and marking	19
4.8.1 General	19
4.8.2 Variant identification number	19
4.8.3 Component marking	19
4.8.4 Package marking.....	19
4.9 Storage conditions	19
4.10 Safety	19
Bibliography.....	21
Figure 1 – Standardisation system	18

Table 1 – Operating service environments	13
Table 2 – Multilevel IEC specification structure	14

This document is a preview generated by EVS

INTRODUCTION

Closures comprise a broad component family that functions to protect, secure and store passive fibre optic components (such as splices or connectors) or other non-interconnecting devices (such as optical branching devices). They are installed at either indoor or outdoor locations, and provide access to the optical path of one or more cabled optical fibres. They also generally provide a fibre management system for the orderly management, routing, and storage of optical fibres. Configuration definitions may specify integrated functions, or permit grouped combinations of compatible independent sub-units. Specific classification requirements vary, and may or may not include isolation from environmental hazards (such as water ingress), structure codes (such as fire safety), or other appropriate considerations.

Closures are not intended to provide the primary packaging or structure for uncabled optical fibre splices (such as a rigid mechanical splice shell, or a fusion splice protection sleeve). Specification for those devices is defined in IEC 61073-1.

It is also intended that closures specified under this standard are not sufficiently characterized for continuous brine or deep-water submersion. Examples of this are oceanic or lake-crossing applications. Cables, closures and installation methods suited to this use are highly specialised and are not within the scope of this standard or supporting test procedures.

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – FIBRE OPTIC CLOSURES –

Part 1: Generic specification

1 Scope

This part of IEC 62134 establishes uniform generic requirements for fibre optic closures.

This standard does not cover test and measurement procedures, which are described in IEC 61300 series.

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.

IECQ 001002-3:2005, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

IEC 60027 (all parts), *Letter symbols to be used in electrical technology*

IEC 60050(731), *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60068 (all parts), *Environmental testing*

IEC 60068-2-10, *Environmental testing – Part 2-10: Tests – Test J and guidance: Mould growth*

IEC 60617 (all parts), *Graphical symbols for diagrams*

IEC 60695 (all parts), *Fire hazard testing*

IEC 60695-1-1, *Fire hazard testing – Part 1-1: Guidance for assessing the fire hazard of electrotechnical products – General guidelines*

IEC 60793-2, *Optical fibres – Part 2: Product specifications*

IEC 60794-2, *Optical fibre cables – Part 2: Indoor cables – Sectional specification*

IEC 60825-1, *Safety of laser products – Part 1: Equipment classification and requirements*

IEC 61300-2 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2: Tests*

IEC 61300-3 (all parts), *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 3: Examinations and measurements*

IEC 61753-1, *Fibre optic interconnecting devices and passive components performance standard – Part 1: General and guidance for performance standards*

IEC 61754 (all parts), *Fibre optic connector interfaces*

IEC/TR 61930, *Fibre optic graphical symbology*

IEC/TR 61931, *Fibre optic – Terminology*

IEC 62005 (all parts); *Reliability of fibre optic interconnecting devices and passive optical components*

ISO 129-1, *Technical drawings – Indication of dimensions and tolerances – Part 1: General principles*

ISO 286-1, *ISO system of limits and fits – Part 1: Bases of tolerances, deviations and fits*

ISO 1101, *Geometrical Product Specifications (GPS) – Geometrical tolerancing – Tolerances of form, orientation, location and run-out*

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

ISO 8601, *Data elements and interchange formats – Information interchange – Representation of dates and times*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60050(731) and IEC 61931, as well as the following apply.

3.1

cable splice

permanent or separable joint between two or more optical fibre cables. It may consist of optical fibre joints, fibre management systems, closures or other safety devices

3.2

closure

all external housings except, outdoor wall boxes, cabinets or pedestals

3.3

enclosure

indoor and outdoor housings (wall boxes, cabinets, cases, distribution frames or pedestals)

3.4

fibre management system

system to control, protect and store fibres from the incoming to the outgoing fibres. It is intended for installation within another closure

3.5

fibre splice

permanent or separable splice between two or more optical fibres