

Fibre optic enclosures —

Part 1: Generic specification

The European Standard EN 62134-1:2002 has the status of a
British Standard

ICS 33.180.99

National foreword

This British Standard is the official English language version of EN 62134-1:2002. It is identical with IEC 62134-1:2002.

The UK participation in its preparation was entrusted by Technical Committee GEL/86, Fibre optics, to Subcommittee GEL/86/2, Interconnecting devices and passive components, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
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This British Standard, having been prepared under the direction of the Electrotechnical Sector Policy and Strategy Committee, was published under the authority of the Standards Policy and Strategy Committee on 5 August 2002

Summary of pages

This document comprises a front cover, an inside front cover, the EN title page, pages 2 to 29 and a back cover.

The BSI copyright date displayed in this document indicates when the document was last issued.

Amendments issued since publication

Amd. No.	Date	Comments

© BSI 5 August 2002

ISBN 0 580 40179 0

Fibre optic enclosures
Part 1: Generic specification
(IEC 62134-1:2002)

Enveloppes pour fibres optiques
Partie 1: Spécification générique
(CEI 62134-1:2002)

Lichtwellenleiternormen
Teil 1: Fachgrundspezifikation
(IEC 62134-1:2002)

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CENELEC

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

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Foreword

The text of document 86B/1642/FDIS, future edition 1 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 2002-05-01.

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) 2003-02-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2005-05-01

Annexes designated "normative" are part of the body of the standard.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 62134-1:2002 was approved by CENELEC as a European Standard without any modification.

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INTRODUCTION

IEC 62134, which is a generic specification, is divided into three parts.

Part 1, entitled “General”, contains pertinent explanatory and reference information.

Part 2, entitled “Requirements”, contains all of the requirements that are to be met by fibre optic enclosures covered by this specification. The requirements for classification, documentation, design and construction, quality, performance, identification and marking, storage conditions, and safety are covered in this part.

Part 3, entitled “Quality assessment procedures”, contains all of the procedures that are to be followed for proper quality assessment of products covered by this standard.

FIBRE OPTIC ENCLOSURES –

Part 1: Generic specification

1 General

1.1 Scope

Enclosures 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 for the orderly management, routing, and storage of optical fibres (such as splice organizers or connector mounting plates). 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.

Enclosures 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 enclosures 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 specialized and are not within the scope of this standard or supporting test procedures.

Due to the diverse variety of subordinate specifications possible under this generic specification, the sectional specification level has been retained (see 2.2.1). This format will aid definition clarity for individual component sub-families and requirements, and provide relevant associated blank detail specifications.

This standard establishes uniform requirements for the following:

- fibre optic enclosure generic requirements;
- qualification approval and quality assessment procedures.

1.2 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 001001, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic Rules*

IECQ 001002-2:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 2: Documentation*

IECQ 001002-3:1998, *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure – Part 3: Approval procedures*

IEC Guide 102, *Electronic components – Specification structures for quality assessment (Qualification approval and capability approval)*

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

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

IEC 60410, *Sampling plans and procedures for inspection by attributes*

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

IEC 60695-2-2, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

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

IEC 60794-2, *Optical fibre cables – Part 2: Product specifications*

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

IEC 61073-1, *Mechanical splices and fusion splice protectors for optical fibres and cables – Part 1: Generic specification*

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

IEC 61300-2-16, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-16: Tests – Mould growth*

IEC 61300-2-30, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-30: Tests – Solar radiation*

IEC 61300-2-36, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures – Part 2-36: Tests – Flammability (fire hazard)*

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

IEC 61753-1-1, *Fibre optic interconnecting devices and passive components performance standard – Part 1-1: General and guidance – Interconnecting devices (connectors)*

IEC 61930, *Fibre optic graphical symbology*

ISO 129, *Technical drawings – Dimensioning – General principles, definitions, methods of execution and special indications*

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

ISO 370, *Toleranced dimensions – Conversion from inches into millimetres and vice versa*

ISO 1101, *Technical drawings – Geometrical tolerancing – Tolerancing of form, orientation, location and run-out – Generalities, definitions, symbols, indications on drawings*

1.3 Definitions

For the purpose of this standard, the definitions given in IEC 60050(731) together with the following definitions apply.

1.3.1

cable splice

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

1.3.2

fibre splice

permanent or separable joint between two or more optical fibres

1.3.3

optical fibre enclosure

housing or compartment of generally closed construction, utilized for the storage, distribution, or protection of one or more cabled fibre joints. It frequently restores the mechanical, environmental, strain relief, and moisture resistance, which are provided by cable jackets, removed at outdoor cable splice locations

1.3.4

hybrid enclosure

enclosure that is used to protect cable joints comprised of both optical fibre and electrically conductive media

1.3.5

enclosure hardware

any of the individual apparatus elements of an enclosure

1.3.6

pressurized enclosure

sealed enclosure that provides protection from water ingress by maintaining a continuous positive internal gas pressure

1.3.7

non-pressurized enclosure

enclosure that provides protection from water ingress by permanently sealed construction. It may optionally utilize filling compound that shall not directly contact uncabled optical fibres

1.3.8**cabinet**

container that may enclose connection devices, terminations, apparatus, cabling, and equipment. It may be either wall-mounted or self-supporting

1.3.9**pedestal**

secure outer enclosure that provides external mechanical and weather protection at a cable splice or distribution location. It is typically installed above ground-level on a prepared site, and provides entry for below-grade cables

1.3.10**pedestal enclosure**

secondary interior enclosure that is installed inside a pedestal. It may provide environmental isolation, and it may selectively restrict or provide simple access to individual cabled optical fibres

1.3.11**distribution frame/panel**

structure with terminations for connecting the permanent cabling of a facility in a manner that inter-connection or cross-connection may be readily made and rearranged to facilitate cabling administration

1.3.12**splice organizer**

structure that organizes and controls storage of fibre splices in an orderly manner, together with the associated excess uncabled fibre lengths. It is defined as an enclosure, although it provides mechanical protection only, and is intended for installation within another enclosure

1.3.13**telecommunications outlet**

fixed connecting device where the horizontal cable terminates. The telecommunications outlet provides the interface to the work area cabling

2 Requirements

The common requirements for fibre optic enclosures covered by this specification are specified in this clause. Additional or more severe requirements may be imposed by a relevant subsidiary specification.

2.1 Classification

Fibre optic enclosures shall be classified by the following categories. The evolution of fibre optic technology and technical progress may alter or add terms.

- Type
- Style
- Variant
- Arrangement
- Normative reference extensions
- Climatic category
- Assessment level