



SLOVENSKI STANDARD
SIST EN IEC 61300-1:2022/A1:2024
01-julij-2024

Optični spojni elementi in pasivne komponente - Osnovni preskusni in merilni postopki - 1. del: Splošno in smernice - Dopolnilo A1 (IEC 61300-1:2022/AMD1:2024)

Fibre optic interconnecting devices and passive components - Basic test and measurement procedures - Part 1: General and guidance (IEC 61300-1:2022/AMD1:2024)

Lichtwellenleiter - Verbindungselemente und passive Bauteile - Grundlegende Prüf- und Messverfahren - Teil 1: Allgemeines und Leitfaden (IEC 61300-1:2022/AMD1:2024)

Dispositifs d'interconnexion et composants passifs fibroniques - Procédures fondamentales d'essais et de mesures - Partie 1: Généralités et recommandations (IEC 61300-1:2022/AMD1:2024)

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Ta slovenski standard je istoveten z: EN IEC 61300-1:2022/A1:2024

ICS:

33.180.20	Povezovalne naprave za optična vlakna	Fibre optic interconnecting devices
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SIST EN IEC 61300-1:2022/A1:2024	en
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EUROPEAN STANDARD

EN IEC 61300-1:2022/A1

NORME EUROPÉENNE

EUROPÄISCHE NORM

May 2024

ICS 33.180.20

English Version

Fibre optic interconnecting devices and passive components -
Basic test and measurement procedures - Part 1: General and
guidance
(IEC 61300-1:2022/AMD1:2024)

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(IEC 61300-1:2022/AMD1:2024)

This amendment A1 modifies the European Standard EN IEC 61300-1:2022; it was approved by CENELEC on 2024-05-22. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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.

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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 61300-1:2022/A1:2024 (E)**European foreword**

The text of document 86B/4865/FDIS, future IEC 61300-1/AMD1, 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 61300-1:2022/A1:2024.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2025-02-22 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the (dow) 2027-05-22 document have to be withdrawn

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Endorsement notice

The text of the International Standard IEC 61300-1:2022/AMD1:2024 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 standard indicated:

IEC 61753 series	NOTE	Approved as EN IEC 61753 series
IEC 61753-111 series	NOTE	Approved as EN IEC 61753-111 series
IEC 62005 series	NOTE	Approved as EN IEC 62005 series



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INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**FIBRE OPTIC INTERCONNECTING
DEVICES AND PASSIVE COMPONENTS –
BASIC TEST AND MEASUREMENT PROCEDURES –****Part 1: General and guidance****AMENDMENT 1****FOREWORD**

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Amendment 1 to IEC 61300-1:2022 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this Amendment is based on the following documents:

Draft	Report on voting
86B/4865/FDIS	86B/4900/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 Amendment 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/publications/.

A list of all parts in the IEC 61300 series, published under the general title *Fibre optic interconnecting devices and passive components*, 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, or
- revised.

Add the following new subclause:

4.2.3 Requirements for test sample configuration in environmental test chamber

Annex C defines example configuration of the test sample, and specifies the fibre, pigtail, or cable length inside the environmental test chamber for different test sample types.

Add the following new Annex C

[SIST EN IEC 61300-1:2022/A1:2024](https://standards.iteh.ai/catalog/standards/sist/bd72e59a-2cc0-475c-866e-36e555255265/sist-en-iec-61300-1-2022-a1-2024)

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Annex C (normative)

Test sample configuration in environmental test chamber

C.1 General

Annex C defines the configurations of the test samples and the fibre, pigtail, or cable lengths inside the environmental test chamber for the different test sample types, such as:

- pigtail,
- hardened connector pigtail,
- patchcord,
- non-connectorized passive component,
- connectorized passive component,
- plug-receptacle style passive component,
- fibre management system,
- protective housing without looped cable,
- protective housing with looped cable,
- combined protective housing test sample with looped cable,
- mechanical splice or fusion splice.

An environmental test chamber is used for temperature cycling, dry heat, cold, damp heat, and similar tests.

The test sample configuration and the fibre, pigtail, or cable lengths inside the environmental test chamber shall be as given in clauses C.2 to C.12, unless otherwise specified in the relevant IEC 61753 performance standard and IEC 62005 reliability document.

The method of storage shall not affect the optical fibre with respect to expansion or contraction. Tight coiling on a rigid cable reel shall not be used. The overlength of the fibres, pigtails, or cables of the sample inside the chamber shall be routed in large diameter loose coils or bends. The diameter of the coils or bends shall be larger than the minimum bending diameter specified for the cable in service. The fibre, pigtail, or cable coils shall be loosely fixed in a way that the cable elements are not under stress and are free to move.

The test sample or the additional pigtails should have unterminated leads of sufficient length to allow termination (splicing, connecting, etc.) to the optical monitoring equipment located outside of the environmental test chamber. The deployment of the fibre, pigtail, or cable outside the chamber shall not affect the results.

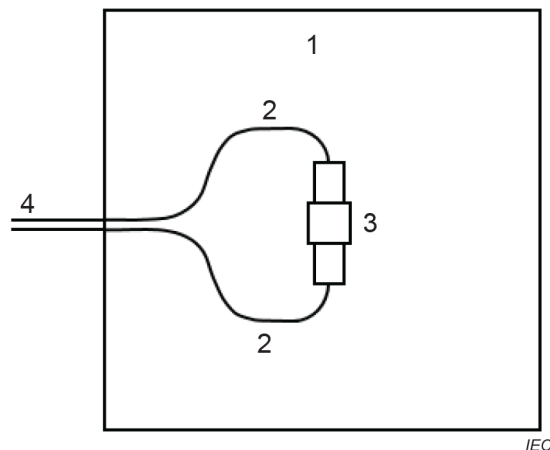
The configurations are shown with one incoming and one outgoing fibre, pigtail, or cable of a test sample in Figure C.1 to Figure C.12 for illustrative purposes. Different types of test samples exist having one or more incoming and one or more outgoing fibres, pigtails, or cables, or even an incoming fibre, pigtail, or cable only. The test sample configurations and length specifications for such test samples shall be applied analogously.

When several test samples are tested in the same chamber, the test samples shall be placed in such a way that they do not influence each other and do not exert any load on other test samples. The test samples can be placed side-by-side or on different height levels. Care should be taken to ensure that either the specified temperature or humidity, or both, is present for all samples. The test sample configuration and length specification for multiple test samples shall be applied analogously.

NOTE When using a protective housing test sample configuration from C.10 to C.11, experience shows that the test samples can successfully meet the temperature change requirements outlined in the IEC 61753 series in this configuration, provided the cables are suitable for the specified operating temperature range. This means that the fibre protrusion after temperature changes is ≤ 20 mm at the terminated cable ends in the housings.

C.2 Pigtail test sample

The pigtail test sample should be placed inside the environmental test chamber as shown in Figure C.1. This configuration should be used for connectors terminated on pigtails and is intended for non-hardened connectors. For hardened connectors see C.3.



Key

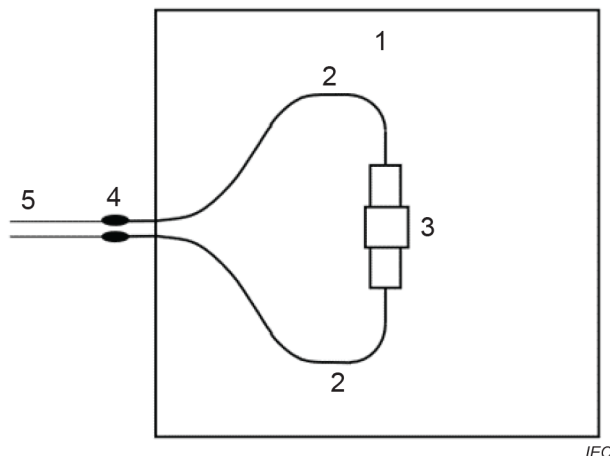
- 1 environmental test chamber
- 2 pigtail
- 3 adaptor, if required
- 4 incoming and outgoing pigtails whose fibres are connected to the measurement equipment

Figure C.1 – Example configuration of a pigtail test sample

Each pigtail should be ≥ 3 m in length and a length of $\geq 1,5$ m shall be located inside the environmental test chamber. The end of the sheath and strength members of the reinforced cable may be outside or inside the environmental test chamber. An adaptor is required if a connector plug-adaptor-plug type is used. If a connector plug-socket type is used, no adaptor is required.

C.3 Hardened connector pigtail test sample

The hardened connector pigtail test sample should be placed inside the environmental test chamber as shown in Figure C.2. This configuration should be used for hardened connectors terminated on cables.

**Key**

- 1 environmental test chamber
- 2 hardened connector pigtail
- 3 adaptor, if required
- 4 all cable elements fixed of each pigtail
- 5 buffered format, if present, or otherwise the primary coated fibres with fibre ends connected to measurement equipment

Figure C.2 – Example configuration of a hardened connector pigtail test sample

Each hardened connector pigtail shall be a length of ≥ 5 m inside the environmental test chamber. Just outside the environmental test chamber, all cable elements shall be fixed by clamps, glue, or other effective means. If present, the buffered fibres, or otherwise the primary coated fibres should be routed outside the environmental test chamber where the fibre ends are connected to the measurement equipment.

An adaptor is required if a hardened connector of the plug-adaptor-plug type is used. If a hardened connector of the plug-socket type is used, no adaptor is required.

C.4 Patchcord test sample

The patchcord test sample should be placed inside the environmental test chamber as shown in Figure C.3. This configuration can be used for non-hardened and hardened connectors.