

PRE-STANDARD

**Fibre optic interconnecting devices
and passive components –
Reliability of fibre optic interconnecting
devices and passive optical components –**

**Part 9-2:
Reliability qualification for
fibre optic connectors**

PUBLICLY AVAILABLE SPECIFICATION



INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – RELIABILITY OF FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE OPTICAL COMPONENTS

Part 9-2: Reliability qualification for fibre optic connectors

A PAS is a technical specification not fulfilling the requirements for a standard, but made available to the public.

IEC/PAS 62005-9-2 has been processed by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

The text of this PAS is based on the following document:

This PAS was approved for publication by the P-members of the committee concerned as indicated in the following document:

Table with 2 columns: Draft PAS, Report on voting. Row 1: 86B/1818/PAS, 86B/1838/RVD

Following publication of this PAS, the technical committee or subcommittee concerned will investigate the possibility of transforming the PAS into an international Standard.

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This PAS shall remain valid for an initial maximum period of 3 years starting from 2003-03. The validity may be extended for a single 3-year period, following which it shall be revised to become another type of normative document, or shall be withdrawn.

INTRODUCTION

This PAS/Pre-standard has been produced by IEC/TC 86 Fibre Optics, SC 86B Fibre Optic Interconnecting Devices and Passive Optical Components, WG 5 Reliability of Fibre Optic Interconnecting Devices and Passive Components.

Both a Performance Qualification Standard (PQS) and a Reliability Qualification Standard (RQS) define a set of prescribed conditions and contain a series or a set of tests and measurements (which may or may not be grouped into a specific schedule) with clearly defined conditions, severities and pass/fail criteria. The tests are intended to be run on a 'once-off' basis to prove the product's ability to satisfy the performance or reliability requirements of a specific application, market sector or user group.

The subsequent parts of this PAS/Pre-standard contain those sets of reliability criteria that have been standardized for international use. A product that has been shown to meet all the requirements of a reliability standard may be declared as complying with that reliability standard.

It is recognised that component reliability qualification could be accomplished in alternative ways. The procedures in this standard are a baseline, but other qualification methods could prove to be more cost-effective. Alternative methods may be included in future revisions of this PAS/Pre-standard if they are demonstrated to be effectively equivalent to the baseline procedures.

Compliance with an RQS demonstrates that a product has met its optical and mechanical performance over the duration of the applied test programs. Consistency of manufacture should be maintained using a recognized Quality Assurance program.

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – RELIABILITY OF FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE OPTICAL COMPONENTS

Part 9-2: Reliability qualification for fibre optic connectors

1 Scope

This PAS/Pre-standard applies to passive optical components and optical elements such as connectors
patchcords
pig-tails.

As the optical power of transmission systems increases, high-power ageing and optical transient effects may become important for some components. At present, limited data and understanding are available for the development of reliability tests for high optical power; therefore, these are not included in this PAS/Pre-standard.

2 Normative References

The following standards contain provisions that, through reference in this text, constitute provisions of this PAS/Pre-standard. All standards are subject to revision, and parties to agreement based on this PAS/Pre-standard are encouraged to use the most recent editions. A catalogue of current IEC and ISO standards can be found on <http://www.iec.ch> and <http://www.iso.ch>, respectively.

IEC 61753-1, *General and guidance for performance standards*

IEC 61300 series, *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*

IEC 62005 series, *Reliability of fibre optic interconnecting devices and passive components*

NOTE Informative (not normative) references are given in Section 8.

3 Definitions

The following definition applies for the purpose of this PAS/Pre-standard:

Reliability standard test report: A fully documented report which contains supporting evidence that the reliability tests have been carried out and the stated performance requirements met.

4 Preparation of the Reliability Qualification Standard

In the preparation of the RQS, the following items were considered and instructions pertaining to them included: Product Definition, Service Environments, Tests, Details, Requirements, Sample Size, Groupings/Sequences, Pass/Fail Criteria, and Reference Product Definition.

4.1 Product Definition

The passive optical component product to which the RQS relates shall be clearly defined, for example, any of those components mentioned in the Scope above.