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Fibre optic filters –

Generic specification

Filtres à fibres optiques –

Spécification générique

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the 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, the IEC publishes International Standards. 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. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61977 has been prepared by subcommittee 86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

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

FDIS	Report on voting
86B/1603/FDIS	86B/1637/RVD

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

This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The QC number that appears on the front cover of this publication is the specification number in the IEC Quality Assessment System for Electronic Components (IECQ).

The committee has decided that the contents of this publication will remain unchanged until 2008. At this date, the publication will be

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- withdrawn;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

INTRODUCTION

This standard is divided into three elements.

The first element, made up of clauses 1 to 3, contains general information which pertains to this standard.

The second element, consisting of clause 4, Requirements, contains all requirements which should be met by fibre optic filters covered by this standard. Requirements for classification, the IEC specification system, documentation, materials, workmanship, quality, performance, identification, and packaging are covered.

The third element, composed of clause 5, Quality assessment procedures, contains all of the procedures which must be followed for proper quality assessment of products covered by this standard.

FIBRE OPTIC FILTERS –

Generic specification

1 Scope

IEC 61977 applies to the family of fibre optic filters. These components have all of the following general features:

– they are passive for the reason that they contain no optoelectronic or other transducing elements which can process the optical signal launched into the input port;

– they modify the spectral intensity distribution in order to select some wavelengths and inhibit others;

– they are fixed, i.e. the modification of the spectral intensity distribution is fixed and can not be tuned;

– they have a maximum of two ports for the transmission of optical power; the ports are optical fibre or optical fibre connectors;

– they differ according to their characteristics. They can be divided into the following categories:

- short-wave pass (only wavelengths lower than or equal to a specified value are passed);
- long-wave pass (only wavelengths greater than or equal to a specified value are passed);
- band-pass (only an optical window is allowed);
- notch (only an optical window is inhibited).

It is also possible to have a combination of the above categories.

This standard establishes uniform requirements for the following:

– optical, mechanical and environmental properties;

– measurement and test procedures for quality assessment.

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 001001:2000, *IEC Quality Assessment System for Electronic Components (IECQ) – Basic Rules*

IECQ 001002 (all parts), *IEC Quality Assessment System for Electronic Components (IECQ) – Rules of Procedure*

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

IEC 60050(731):1991, *International Electrotechnical Vocabulary – Chapter 731: Optical fibre communication*

IEC 60410:1973, *Sampling plans and procedures for inspection by attributes*

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

IEC 60695-2-2:1991, *Fire hazard testing – Part 2: Test methods – Section 2: Needle-flame test*

IEC 60825-1:1993, *Safety of laser products – Part 1: Equipment classification, requirements and user's guide*

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

ISO 129:1985, *Technical drawings – Dimensioning – General principles, definitions, methods of execution and special indications*

ISO 286-1:1988, *ISO system of limits and fits – Part 1: Bases of tolerances, deviations and fits*

ISO 1101:1983, *Technical drawings – Geometrical tolerancing – Tolerancing of form, orientation, location and run-out – Generalities, definitions, symbols, indications on drawings*

ISO 8601:2000, *Data elements and interchange formats – Information interchange – Representation of dates and times*