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**Fibre optic interconnecting devices and passive components – Basic test and measurement procedures –
Part 3-35: Examinations and measurements –
Visual inspection of fibre optic connectors and fibre-stub transceivers**

**Dispositifs d'interconnexion et composants passifs à fibres optiques –
Procédures fondamentales d'essais et de mesures –
Partie 3-35: Examens et mesures – Examen visuel des connecteurs à fibres optiques et des émetteurs-récepteurs à embase fibrée**



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CONTENTS

FOREWORD.....	4
1 Scope.....	6
2 Normative references	6
3 Terms, definitions and abbreviations	6
3.1 Terms and definitions.....	6
3.2 Abbreviations.....	7
4 Measurement.....	7
4.1 General.....	7
4.2 Measurement conditions	7
4.3 Pre-conditioning.....	7
4.4 Recovery	7
5 Apparatus.....	8
5.1 Method A: Direct view optical microscopy	8
5.2 Method B: Video microscopy.....	8
5.3 Method C: Automated analysis microscopy	8
5.4 Certification requirements for low and high resolution systems	8
5.4.1 General	8
5.4.2 Requirement for low resolution microscope systems.....	8
5.4.3 Requirements for high resolution microscope systems.....	9
6 Procedure.....	9
6.1 Certification procedure.....	9
6.2 Inspection procedure	9
6.3 Visual requirements	10
Annex A (informative) Examples of inspected end faces with surface anomalies.....	13
Annex B (normative) Diagram of qualification artefact and method of manufacture	18
B.1 High resolution artefact.....	18
B.2 Low resolution artefact.....	20
Bibliography.....	21
Figure 1 – Inspection procedure flow	10
Figure A.1 – Example 1 (low resolution system).....	13
Figure A.2 – Example 1 (high resolution system)	13
Figure A.3 – Example 2 (low resolution system).....	14
Figure A.4 – Example 2 (high resolution system)	14
Figure A.5 – Example 3 (low resolution system).....	14
Figure A.6 – Example 3 (high resolution system)	15
Figure A.7 – Example 4 (low resolution system).....	15
Figure A.8 – Example 4 (high resolution system)	16
Figure A.9 – Example 5 (low resolution system).....	16
Figure A.10 – Example 6 (low resolution system).....	17
Figure B.1 – Example of nano-indentation test system	18
Figure B.2 – Example of high resolution artefacts	19
Figure B.3 – Example of low resolution artefact pattern	20

Table 1 – Visual requirements for single-mode PC polished connectors, $RL \geq 45$ dB 11

Table 2 – Visual requirements for single-mode angle polished (APC) connectors..... 11

Table 3 – Visual requirements for single-mode PC polished connectors, $RL \geq 26$ dB
and single-mode transceivers using a fibre-stub interface 12

Table 4 – Visual requirements for multi-mode PC polished connectors..... 12

INTERNATIONAL ELECTROTECHNICAL COMMISSION

FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-35: Examinations and measurements – Visual inspection of fibre optic connectors and fibre-stub transceivers

FOREWORD

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International Standard IEC 61300-3-35 has been prepared by subcommittee SC86B: Fibre optic interconnecting devices and passive components, of IEC technical committee 86: Fibre optics.

This second edition cancels and replaces the first edition published in 2009 and constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) modification to the title;
- b) addition of some terms and definitions;

- c) reconsideration of the specific values of Tables 1 to 4 to reflect the current market situation;
- d) addition of visual requirements for single-mode transceivers using a fibre-stub interface in Table 3;
- e) addition of a sentence in 4.1 concerning the susceptibility of the methods to system variability.

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

FDIS	Report on voting
86B/3886/FDIS	86B/3912/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 2.

A list of all parts in the IEC 61300 series, published under the general title *Fibre optic interconnecting devices and passive components – Basic test and measurement procedures*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

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FIBRE OPTIC INTERCONNECTING DEVICES AND PASSIVE COMPONENTS – BASIC TEST AND MEASUREMENT PROCEDURES –

Part 3-35: Examinations and measurements – Visual inspection of fibre optic connectors and fibre-stub transceivers

1 Scope

This part of IEC 61300 describes methods for quantitatively assessing the end face quality of a polished fibre optic connector or of a fibre optic transceiver using a fibre-stub type interface. Sub-surface cracks and fractures are not considered in this standard. In general, the methods described in this standard apply to 125 µm cladding fibres contained within a ferrule and intended for use with sources of ≤ 2 W of input power. However, portions are applicable to non-ferruled connectors and other fibre types. Those portions are identified where appropriate. It is not the intention of this standard that the size of scratches should be measured, the dimensions and requirements are selected such that they can be estimated. There is no need to measure for example if a scratch is 2,3 µm wide.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Void.

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1.1 defect

non-linear surface feature detectable on the end face of ferrule including particulates, other debris, fluid contamination, pits, chips, edge chipping, etc.

Note 1 to entry: Some fibre types have structural features potentially visible on the fibre end face. Fibres that use microstructures to contain the light signal, such as photonic band-gap and hole-assisted fibres, can have an engineered or random pattern of structures surrounding the core. These features are not defects.

3.1.2 defect size

smallest circle that can encompass the entire defect

3.1.3 loose debris

particulate and debris that can be removed by cleaning

Note 1 to entry: Loose debris are classified as defects.