PD IEC/TR 62572-4:2013

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Fibre optic active components and devices — Reliability standards

Part 4: Guidelines for optical connector end-face cleaning methods for receptacle style optical transceivers

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A list of organizations represented on this committee can be obtained on request to its secretary.

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CONTENTS

FOREWORD 4
INTRODUCTION 6
1 Scope 7
2 Normative references 7
3 Terms and definitions 7
4 Application of receptacle style optical transceivers and influence of contamination on optical connector end-face 8
4.1 Application of receptacle style optical transceivers 8
4.2 Influence of contamination on optical connector plugs 9
4.3 Transferring of contamination 9
4.4 Influence of contamination on optical connector for optical transceivers 9
5 Care in handling of receptacle style optical transceivers 9
5.1 General 9
5.2 Storage of receptacle style optical transceivers 9
5.3 Installation of receptacle style optical transceivers 10
5.4 Connection of optical connector plugs to receptacle style optical transceivers 10
5.5 Removing of receptacle style optical transceivers 10
5.6 Action in case of abnormality 10
6 Cleaning tools and machines 10
6.1 General 10
6.2 Cleaning tools and machines for optical receptacles 11
7 Internal structure of receptacle style optical transceivers and their applicable cleaning tools and machines 11
Annex A (informative) Detail information of optical connector end-face cleaning tools and machines 13
A.1 Reel type cleaner 13
A.2 Stick type cleaner 13
A.3 Pen type cleaner 13
A.4 Gas and vacuum cleaning machine 14
A.5 Air duster 14
A.6 Wet clean 15
Annex B (informative) Detailed information on the internal structure of receptacle style optical transceivers and their applicable cleaning tools and machines 16
B.1 Internal structure of receptacle style optical transceivers 16
B.2 Example of the method to distinguish internal structure of receptacle style optical transceivers 16
B.3 Applicable cleaning tools and machines according to internal structure of receptacle style optical transceivers 17
B.3.1 General 17
B.3.2 Characteristics of stub type optical transceivers 17
B.3.3 Characteristics of lens type optical transceivers 17
B.3.4 Characteristics of plate contact type optical transceivers 18
Annex C (informative) Cleaning procedure of optical connector end-face of receptacle style optical transceivers 19
C.1 Basic cleaning procedure 19
C.2 Cleaning procedure of stick type cleaner 19

AVA Documents
Document Sharing Hub
Full document details: PD IEC/TR 62572-4:2013

C.3 Cleaning procedure of pen type cleaner 20
C.4 Cleaning procedure of gas and vacuum type cleaning machine 20
C.5 Cleaning procedure of air duster 20
C.6 Other important points 20
Annex D (informative) Examples of inspection instruments for an optical connector receptacle end-face 22
Bibliography 23

Figure A.1 – Example of a reel type cleaner 13
Figure A.2 – Examples of stick type cleaners 13
Figure A.3 – Examples of pen type cleaners 14
Figure A.4 – Example of pen type cleaner 14
Figure A.5 – Examples of air dusters 14
Figure B.1 – Internal structures for connecting to optical connector plugs 16
Figure C.1 – Cleaning an optical transceiver receptacle end-face by a stick type cleaner 19
Figure C.2 – Cleaning optical transceiver receptacle end-face using a pen type cleaner 20
Figure D.1 – Examples of visual inspection instruments for optical connector end-face 22

Table 1 – Typical optical connector receptacle cleaning tools and machines 11
Table 2 – Applicable cleaning tools and machines depending on the internal structure of optical transceivers 12

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – RELIABILITY STANDARDS –

Part 4: Guidelines for optical connector end-face cleaning methods for receptacle style optical transceivers

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IEC/TR 62572-4, which is a technical report, has been prepared by subcommittee 86C: Fibre optic active components and devices, of IEC technical committee 86: Fibre optics.

The text of this technical report is based on the following documents:

Enquiry draft	Report on voting
86C/1147/DTR	86C/1182/RVC

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

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This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in IEC 62752 series, under the general title *Fibre optic active components and devices – Reliability standards*, 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

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

A bilingual version of this publication may be issued at a later date.

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INTRODUCTION

High speed internet communication systems and subscriber systems have spread rapidly owing to the increased capacity of data communication. In these systems, receptacle style optical transceivers such as SFP (small form factor pluggable), XFP (10-Gbps small form factor pluggable), which can be mounted and removed during transmission systems operation, are widely used. Optical receptacles of optical transceivers are connected to optical connector plugs of optical patch cords and optical signals are transmitted and received through these optical receptacles. Pluggable type optical transceivers are required to be low cost and of small size, and the designs are often simplified. Therefore, the internal structure, especially the receptacle structure, tends to vary between optical transceiver manufacturers.

Generally, to maintain high reliability, optical connections require cleaning of the optical connector end-face. The technical report on cleaning of optical connector plugs and optical adaptors, IEC/TR 62627-01, which was proposed by Japan, was published in August, 2010.

There are, however, no standard cleaning methods for the optical receptacles of optical transceivers. It is a concern that the failure of optical transceivers due to damage and contamination of the optical receptacle end-face may lead to failure in optical network systems.

This technical report is based on OITDA TP12/TP-2012.[1][1]

[1] References in square brackets refer to the Bibliography.

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FIBRE OPTIC ACTIVE COMPONENTS AND DEVICES – RELIABILITY STANDARDS –

Part 4: Guidelines for optical connector end-face cleaning methods for receptacle style optical transceivers

1 Scope

IEC/TR 62572-4, which is a technical report, provides guidelines for optical connector end-face cleaning methods for receptacle style optical transceivers. It includes details about handling receptacle style optical transceivers, internal structures of optical transceivers, information on cleaning tools and machines, applicable cleaning methods and cleaning procedures.

Receptacle style optical transceivers as well as optical fibre patch cords are handled by operators and maintenance staff of optical network systems. This technical report may be used as a guideline to prepare instruction manuals for the operators and maintenance staff of optical network systems.

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.

IEC/TR 62627-01, *Fibre optic interconnecting devices and passive components – Part 01: Fibre optic connector cleaning methods*

IEC/TR 62627-05, *Fibre optic interconnecting devices and passive components – Part 05: Investigation on impact of contamination and scratches on optical performance of single mode (SM) and multimode (MM) connectors*[2]

3 Terms and definitions

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

3.1
stub
polished short ferrule, including optical fibre inside, mounted in a receptacle style optical transceiver

Note 1 to entry: The stub is connected to an optical connector plug of an optical patch cord.

3.2
stub type optical transceiver
receptacle style optical transceiver with a stub

[2] To be published.

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