

INTERNATIONAL STANDARD

NORME INTERNATIONALE



Sample preparation for measurement of mercury level in fluorescent lamps

Préparation des échantillons en vue de la mesure du niveau de mercure dans les lampes fluorescentes



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SAMPLE PREPARATION FOR MEASUREMENT
OF MERCURY LEVEL IN FLUORESCENT LAMPS**

FOREWORD

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International Standard IEC 62554 has been prepared by subcommittee 34A: Lamps, of IEC technical committee 34: Lamps and related equipment.

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

FDIS	Report on voting
34A/1484/FDIS	34A/1502/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.

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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INTRODUCTION

The International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of a patent concerning Cold spotting given in 5.4.1.

IEC takes no position concerning the evidence, validity and scope of this patent right.

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According to IEC SMB 136/7 decision, the technical committee decided to remove designation of a reference method.

SAMPLE PREPARATION FOR MEASUREMENT OF MERCURY LEVEL IN FLUORESCENT LAMPS

1 Scope

This International Standard specifies sample preparation methods for determining mercury levels in new tubular fluorescent lamps (including single capped, double capped, self-ballasted and CCFL for backlighting) containing 0,1 mg mercury or more. The intended resolution of the methods described in this standard is of the order of 5 %.

Mercury level measurement of spent lamps is excluded, as during lamp operation, mercury gradually diffuses into the glass wall and reacts with the glass materials. The test method of this standard does not recover mercury that is diffused into or reacted with or otherwise incorporated irreversibly with the glass wall of discharge tubes.

This standard does not contain information on measurement. Measurement is specified in IEC 62321.

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.

ISO/IEC 17025:2005, *General requirements for the competence of testing and calibration laboratories*

IEC 62321:2008, *Electrotechnical products – Determination of levels of six regulated substances (lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls, polybrominated diphenyl ethers)*

ISO 3696:1987, *Water for analytical laboratory use – Specification and test methods*

3 Terms and definitions

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

3.1

new lamp

a lamp that has not been energized since manufacture

3.2

cold cathode fluorescent lamp (CCFL) for backlighting

small diameter fluorescent lamp having cold cathode in the lamp, in which most of light is emitted by the excitation of phosphors coated in discharge tube and used as backlight in LCD

3.3

external electrode fluorescent lamp (EEFL) for backlighting

small diameter fluorescent lamp having cold cathode attached outside the lamp, in which most of light is emitted by the excitation of phosphors coated in discharge tube and used as backlighting in LCD

EEFL is a subtype in CCFL lamp group.