
Zahteve za zbiranje, logistiko in obdelavo odpadne električne in elektronske opreme (WEEE) - 3-2. del: Tehnična specifikacija za preprečevanje onesnaženja - Svetilke

Collection, logistics & Treatment requirements for WEEE - Part 3-2: Technical specification for de-pollution - Lamps

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Exigences de collecte, de logistique et de traitement pour les déchets d'équipements électriques et électroniques (DEEE) - Partie 3-2 : Spécification technique pour la dépollution - Lampes

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Ta slovenski standard je istoveten z: CLC/TS 50625-3-2:2016

ICS:

13.020.40	Onesnaževanje, nadzor nad onesnaževanjem in ohranjanje	Pollution, pollution control and conservation
13.030.99	Drugi standardi v zvezi z odpadki	Other standards related to wastes
29.140.99	Drugi standardi v zvezi z žarnicami	Other standards related to lamps

SIST-TS CLC/TS 50625-3-2:2016 **en**

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TECHNICAL SPECIFICATION
SPÉCIFICATION TECHNIQUE
TECHNISCHE SPEZIFIKATION

CLC/TS 50625-3-2

May 2016

ICS 13.030.99; 29.140.01

English Version

**Collection, logistics & Treatment requirements for WEEE - Part
3-2: Technical specification for de-pollution - Lamps**

Exigences de collecte, de logistique et de traitement pour
les déchets d'équipements électriques et électroniques
(DEEE) - Partie 3-2: Spécification technique pour la
dépollution - Lampes

Sammlung, Logistik und Behandlung von Elektro- und
Elektronik-Altgeräten (WEEE) - Teil 3-2: Technische
Spezifikation zur Schadstoffentfrachtung - Lampen

This Technical Specification was approved by CENELEC on 2016-02-09.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (CLC/TS 50625-3-2:2016) has been prepared by CLC/TC 111X "Environment".

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC [and/or CEN] shall not be held responsible for identifying any or all such patent rights.

This document has been prepared under Mandate M/518 given to CENELEC by the European Commission and the European Free Trade Association.

CLC/TS 50625-3, *Collection, logistics and treatment requirements for WEEE*, is composed with the following parts:

- *Part 3-1: Specification for de-pollution — General*;
- *Part 3-2: Technical specification for de-pollution — Lamps* [the present document].
- *Part 3-4: Specification for de-pollution — Temperature exchange equipment* [currently in preparation].

This Technical Specification is to be used in conjunction with the latest edition of CLC/TS 50625-3-1.

This Technical Specification supplements or modifies the corresponding clauses in CLC/TS 50625-3-1, so as to convert that publication into the TS: *Treatment specification for lamps*.

When a particular subclause of Part 3-1 is not mentioned in this Part 3-2, that subclause applies as far as is reasonable. When this standard states "addition", "modification" or "replacement", the relevant text in Part 3-1 is to be adapted accordingly.

NOTE The following numbering system is used:

- subclauses, tables and figures that are numbered starting from 101 are additional to those in Part 1;
- unless notes are in a new subclause or involve notes in Part 1, they are numbered starting from 101, including those in a replaced clause or subclause;
- additional annexes are lettered AA, BB, etc.

Introduction

In order to support EN 50625-2-1 and thereby fulfil the requirement of the European Commission's Mandate M/518 it is necessary to include normative requirements, such as target and limit values for the analysis, into a document that is able to be revised to take into account both practical experience and changes in treatment technologies.

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CLC/TS 50625-3-2:2016**1 Scope**

Clause 1 is replaced with the following:

This European Technical Specification is intended to be used in conjunction with the WEEE Treatment Standard for lamps, EN 50625-2-1, and the Technical Specification CLC/TS 50625-3-1:2015 for de-pollution – General.

2 Normative references

Clause 2 is replaced with the following:

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.

EN 488, *District heating pipes — Preinsulated bonded pipe systems for directly buried hot water networks — Steel valve assembly for steel service pipes, polyurethane thermal insulation and outer casing of polyethylene*

EN 13650, *Soil improvers and growing media — Extraction of aqua regia soluble elements*

EN 14899, *Characterization of waste — Sampling of waste materials — Framework for the preparation and application of a Sampling Plan*

EN 15002, *Characterization of waste — Preparation of test portions from the laboratory sample*

CEN/TR 15310-1, *Characterization of waste — Sampling of waste materials — Part 1: Guidance on selection and application of criteria for sampling under various conditions*

CEN/TR 15310-2, *Characterization of waste — Sampling of waste materials — Part 2: Guidance on sampling techniques*

CEN/TR 15310-3, *Characterization of waste — Sampling of waste materials — Part 3: Guidance on procedures for sub-sampling in the field*

CEN/TR 15310-4, *Characterization of waste — Sampling of waste materials — Part 4: Guidance on procedures for sample packaging, storage, preservation, transport and delivery*

CEN/TR 15310-5, *Characterization of waste — Sampling of waste materials — Part 5: Guidance on the process of defining the sampling plan*

EN 50574 (all parts), *Collection, logistics & treatment requirements for end-of-life household appliances containing volatile fluorocarbons or volatile hydrocarbons*

EN 50625-1:2014, *Collection, logistics & Treatment requirements for WEEE — Part 1: General treatment requirements*

EN 50625-2-1:2014, *Collection, logistics and treatment requirements for WEEE — Part 2-1: Treatment requirements for lamps*

EN 62321-4, *Determination of certain substances in electrotechnical products — Part 4: Mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS (IEC 62321-4)*

EN ISO 12846, *Water quality — Determination of mercury — Method using atomic absorption spectrometry (AAS) with and without enrichment (ISO 12846)*

EN ISO 15587-1, *Water quality — Digestion for the determination of selected elements in water — Part 1: Aqua regia digestion (ISO 15587-1)*

EN ISO 15587-2, *Water quality — Digestion for the determination of selected elements in water — Part 2: Nitric acid digestion (ISO 15587-2)*

EN ISO 17294-2, *Water quality — Application of inductively coupled plasma mass spectrometry (ICP-MS) — Part 2: Determination of 62 elements (ISO 17294-2)*

EN ISO 17852, *Water quality — Determination of mercury — Method using atomic fluorescence spectrometry (ISO 17852)*

EN ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025)*

ISO 16772, *Soil quality — Determination of mercury in aqua regia soil extracts with cold-vapour atomic spectrometry or cold-vapour atomic fluorescence spectrometry*

EPA Method 6020 - 1: Revision 1, February 2007, *Inductively coupled plasma mass spectrometry*

EPA Method 7473 - 1: Revision 0, February 2007, *Mercury in solids and solutions by thermal desorption, amalgamation and atomic absorption spectrophotometry*

3 Terms and definitions

This clause of EN 50625-1 and CLC/TS 50625-3-1 is applicable.

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4 De-pollution monitoring

4.1 Introduction <https://standards.iteh.ai/catalog/standards/sist/c95e777b-d088-476c-950e-f139c0098e09/sist-ts-clc-ts-50625-3-2-2016>

This subclause of CLC/TS 50625-3-1 is applicable.

4.2 Target value methodology

This subclause of CLC/TS 50625-3-1 is not applicable.

4.3 Mass Balance methodology

This subclause of CLC/TS 50625-3-1 is not applicable.

4.4 Analysis methodology

Subclause 4.4.is replaced with the following:

This methodology uses the following approach:

- establish the limits: these values are defined in this Technical Specification;
- sample the output fractions: the sample for the analysis shall be prepared according to the sampling procedure defined in this Technical Specification;
- evaluate the analysis' results: the concentration of substances shall be determined according to the analysis procedure defined in this Technical Specification;
- evaluate the de-pollution performance: compare the results of the analysis with the defined limit values. If the results are below the limit values then the performance of de-pollution fulfils the requirements.

CLC/TS 50625-3-2:2016

The level of de-pollution from mercury is also used as an indicator of de-pollution from other hazardous substances that may be present in the fluorescent powder.

A laboratory shall perform the analysis on the samples for the residual amount of mercury in fractions.

Depending on the treatment process used, one of the techniques below, as used in Annex AA, shall be used to obtain a representative mixed sample:

- sampling during a treatment process;
- sampling after a treatment process.

NOTE 1 All the sampling protocols are based on EN 14899.

Analysis protocol will be implemented by laboratories. There are many types of physical-chemical sample processing and analysis. This Technical Specification describes the suitable methods for samples of output fractions from lamp treatment processes.

A laboratory that complies with EN ISO/IEC 17025 shall perform the chemical analysis, including processing of the samples. If the laboratory does not comply with EN ISO/IEC 17025 then duplicate samples shall be sent for checking to a laboratory that does meet EN ISO/IEC 17025 on a regular basis, according to a defined process.

NOTE 2 The laboratory can be internal to the treatment operator or a third party laboratory.

The preparation of the test portion, including homogenization of the heterogeneous samples, shall be carried out according to one of the following standards: ISO 16772, EN ISO 15587-1, EN ISO 15587-2, EN 15002, EN 13650, EPA Method 7473 - 1: Revision 0, February 2007.

The chemical analysis, separation of the test portion and identification of mercury shall be carried out according to one of the following standards: EN 62321-4, EN ISO 12846, EN ISO 17852, EN ISO 17294-2, EPA 6020A - 1 Revision 1, February 2007.

Basic principles of processing heterogeneous samples from lamp treatment fractions are given in Annex BB. A specific protocol has been developed and tested for mixed heterogeneous metal and metal-plastic fractions from lamp treatment (see Annex CC).

5 Overview of the applicable methodologies — Applicable methodologies

This clause of CLC/TS 50625-3-1 is applicable.

6 Large appliances

This clause of CLC/TS 50625-3-1 is not applicable.

7 Cooling and freezing appliances

This clause of CLC/TS 50625-3-1 is not applicable.

8 CRT Display /FPD appliances

This clause of CLC/TS 50625-3-1 is not applicable.

9 Lamps

9.1 Introduction

This clause refers to the treatment standard for lamps EN 50625-2-1:2014, 5.6 (de-pollution monitoring).

9.2 Analysis methodology

According to EN 50625-2-1:2014, 5.6, the limit value for mercury in lamp treatment fractions that shall apply is the following:

- 10 mg Hg/kg for glass fractions
- 100 mg Hg/kg for metal and mixed metal plastic fractions

NOTE 1 The 10 mg Hg/kg value is appropriate for glass fractions from all types of lamps. 5 mg Hg/kg is recommended specifically for glass fractions of linear fluorescent tubes (excluding T12). The origin of the 5 mg Hg/kg value in the glass fraction from linear tubes comes from the lamp industry's specification for the recycled glass used for new tubes.

NOTE 2 The 100 mg Hg/kg value in metal fractions and mixed metal plastics fractions is based on high deviation of results. There is an objective to drive this figure down once more consistent test results are available to support this.

For powder-fractions intended to be recycled, a mercury removal technology shall be in place (downstream).

10 Small appliances

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This clause of CLC/TS 50625-3-1 is not applicable.

11 Protocol for components removed during a batch process

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This clause of CLC/TS 50625-3-1 is not applicable.