SLOVENSKI STANDARD
SIST EN 50625-2-1:2015

01-junij-2015

Zahteve za zbiranje, logistiko in obdelavo odpadne električne in elektronske opreme (WEEE) - 2-1. del: Obravnava zahtev za sijalke

Collection, logistics and treatment requirements for WEEE - Part 2-1: Treatment requirements for lamps

Ta slovenski standard je istoveten z: EN 50625-2-1:2014

ICS:

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 EN 50625-2-1:2015 **sl,en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50625-2-1

December 2014

ICS 13.030.99; 29.100.01; 31.220.01

English Version

Collection, logistics and treatment requirements for WEEE - Part 2-1: Treatment requirements for lamps

Exigences de collecte, logistique et traitement pour les déchets d'équipements électriques et électroniques (DEEE) - Partie 2-1: Exigences de traitement des lampes

Anforderungen an die Behandlung von Elektro- und Elektronik-Altgeräten (WEEE) - Teil 2-1: Anforderungen an die Behandlung von Lampen

This European Standard was approved by CENELEC on 2014-10-13. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Foreword

This document (EN 50625-2-1:2014) has been prepared by CLC/TC 111X "Environment".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2015-10-13
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2017-10-13

This part 2 is to be used in conjunction with the latest edition of EN 50625-1.

NOTE 1 When "Part 1" is mentioned in this standard, it refers to EN 50625-1.

This Part 2 supplements or modifies the corresponding clauses in EN 50625-1, so as to convert that publication into the European Standard: *Treatment requirements for lamps*.

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

NOTE 2 The following numbering system is used:

– additional annexes are lettered AA, BB, etc.

NOTE 3 The following print types are used:

– requirements: in roman type;

– *changes compared to part 1: in italic type.*

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 a mandate given to CENELEC by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For the relationship with EU Directive(s) see informative Annex ZZ, which is an integral part of this document.

Introduction

This clause of Part 1 is replaced by the following:

This European Standard aims to assist organisations in:

- achieving effective and efficient treatment and disposal of waste lamps in order to prevent pollution and minimise emissions;
- promoting increased material recycling;
- promoting high quality recovery operations;
- preventing inappropriate disposal of lamps and fractions thereof;
- assuring protection of human health and safety, and the environment;
- preventing shipments of lamps to operators whose operations fail to comply with this normative document or a comparable set of requirements.

This European Standard supports the objectives of the Community's environment policy. These aim to preserve, protect and improve the quality of the environment, protect human health and utilise natural resources prudently and rationally. That policy is based on the precautionary principle and the maxims that preventive action to minimise environmental damage should, where possible, be rectified at source and the polluter should pay.

This European Standard contains requirements applicable to the treatment of lamps and is a Part 2 of EN 50625-1, *Collection, logistics & Treatment requirements for WEEE - Part 1: General treatment requirements*. Additionally, this standard will be supported by a technical report that will provide a more detailed comparison between normative treatment requirements derived directly from the legal text of Directive 2012/19/EC, especially Annex VII, and between informative treatment requirements going beyond the strict requirements of Directive 2012/19/EC.

This European Standard has been prepared in order to support European legislation and so uses some of the terms defined in European law. In order to ensure that the definitions used in this standard are identical to those defined by law these terms are identified as 'void', indicating that this standard does not contain a definition, and a 'Note to entry' that identifies which law contains the legal definition and the term as defined in that law.

1 Scope

This clause of Part 1 is replaced by the following:

This European standard is applicable to the treatment of lamps.

This European Standard applies to the treatment of lamps until end-of-waste status is fulfilled, or lamp fractions are recycled, recovered, or disposed of.

This European Standard addresses all operators involved in the treatment including related handling, sorting, and storage of lamps. This European Standard applies to all facilities including those whose treatment operations use mobile equipment.

2 Normative references

This clause of Part 1 is applicable.

3 Terms & definitions

This clause of Part 1 is applicable.

4 Administrative and organisational requirements

This clause of Part 1 is applicable except as follows.

Sub-clause 4.2 is replaced with the following:

4.2 Technical and infrastructural pre-conditions

The lamp treatment operator shall possess infrastructure, in terms of size, technologies installed and characteristics of the operations, that is suitable for the activities performed on site. A risk management process shall be in operation at the site. This shall monitor and control all tasks performed on site and include the identification of hazards, the assessment of risk and, where appropriate, the elimination or reduction of the risk and documentation of the process.

The risk assessment shall consider emissions to the environment (i.e. water, air and soil) and occupational health. It shall include normal storage, treatment, plant maintenance and servicing, as well as cases of emergencies including accidental fire events. The treatment operator shall implement measures to prevent emissions into the environment, reflecting all relevant risks identified in the risk assessment. Used carbon filters shall be treated appropriately. If water is used in processing it shall be appropriately stored and treated / disposed of. The effectiveness of the risk assessment shall be verified by regular monitoring, according to Annex AA.

NOTE 1 Examples of measures to prevent hazardous emissions: environmental management system, carbon filters, a closed water sewer system or a firewater retention reservoir.

Treatment operators shall perform regular monitoring of emissions of hazardous substances to the environment so as to ensure levels that none are at a level which is considered to present an unacceptable risk.

NOTE 2 The fulfilment of limit values that define unacceptable risks for various substances and associated requirements for the frequency of monitoring are often described in national regulations or site permitting requirements.

The risk assessment shall include the identification of those locations and activities that require the use of personal protective equipment and procedures to be followed.

NOTE 3 Directive 89/391/EEC provides requirements for the safety and health for the protection of workers at work.

The operator shall implement appropriate measures to control its employees' exposure to mercury and other hazards specific to lamps. Such measures shall include, but are not limited to:

- Personal protective equipment removed and stored in a designated area/container before leaving the work place (at the end of the day or before commencing a break) to avoid contamination; and
- Workers washing their hands whenever leaving the working area, eating and smoking in designated areas.

NOTE 4 Other hazards specific to lamps treatment may include hazards arising from broken glass, dust emission, fluorescent powder emission, sodium reaction with water for low pressure sodium lamps, explosion of high pressure lamps etc.

NOTE 5 Examples of personal protective equipment are: gloves, glasses, masks, safety shoes and a protective suit.

Treatment facilities and associated storage areas shall be designed organised, and maintained:

- to provide safe access to, and egress from, the site for authorized persons, and
- to prevent damage to and theft of lamps and fractions thereof.

Weatherproof covering and impermeable surfaces shall be provided for all areas where lamps, and fractions thereof, are stored and/or treated if these can cause emissions that are hazardous to the environment. The exposure to water during internal transportation processes shall be minimized.

NOTE 6 Weatherproof covering can, for example, be provided by a lid or cover over a container, or a roofed building. The type of weatherproof covering required will depend of the types and quantities of lamps and fractions thereof.

Requirements for the storage of lamps prior to treatment, including requirements for weatherproof covering, are given in 5.4.

5 Technical requirements

This clause of Part 1 is applicable except as follows.

5.1 General

Sub-clause 5.1 is replaced with the following:

Lamps shall be handled and stored with appropriate care in order to avoid uncontrolled release of hazardous substances to the environment.

The treatment operator shall ensure the separation and preparation of the fractions in a way that facilitates their recycling, whether the treatment operator performs the separation activity using its own treatment facilities or uses authorized contractors.

NOTE 1 Examples of fractions generated from the separation process of lamps are the separated glass fractions, the separated metallic fractions, the separated plastics fractions, the elemental mercury, the separated phosphor powders, etc.

NOTE 2 Potential applications for output fractions are given in Annex BB.

If it is uncertain whether lamps contain mercury or are contaminated by mercury, they shall be treated as though they do contain mercury.

NOTE 3 There is an evident risk of contamination by mercury of the non-containing mercury lamps since they are usually mixed, during the collection, with broken mercury containing lamps in the same container.

A delivery can be treated in a separate treatment process only if there is reliable evidence available on the absence of mercury. If the presence of mercury is detected the entire delivery shall be treated again using a process that removes mercury. The treatment operator shall also establish and maintain a procedure to confirm the absence of mercury in these inputs.

NOTE 4 The “absence of mercury” refers to the absence of mercury containing lamps and/or the absence of lamps contaminated by mercury.

5.2 Receiving of WEEE at treatment facility

Sub-clause 5.2 is replaced with the following:

When treatment operators receive deliveries, they shall verify whether the content of the delivery is compliant with the accompanying relevant documentation. The treatment operator shall establish and maintain a procedure in order to deal with noncompliant deliveries.

The treatment operator shall measure and record the mass of each delivery received.

5.3 Handling of WEEE

Sub-clause 5.3 is replaced with the following:

All handling of lamps, including the loading, unloading and internal transport, shall be carried out using appropriate tools, containers and fixings to avoid damage or breakage and to avoid emissions of hazardous substances.

Uncontrolled tipping of containers with lamps shall not be permitted.

Lamps shall not be handled in a way that subsequent de-pollution or recovery is adversely affected.

Lamps shall be placed in containers or stacked in a stable manner to prevent damage or breakage.

Empty reusable containers shall be cleaned prior to storage such that there are no remaining materials from broken lamps visible.

Non-reusable containers shall be treated such that hazardous residues are removed before disposal. If it is not possible to adequately remove all hazardous residues then they shall be disposed of in accordance with the requirements defined by the national competent authority.

5.4 Storage of WEEE prior to treatment

Sub-clause 5.4 is replaced with the following:

The maximum amount of lamps including broken lamps stored by the treatment operator shall not exceed the amount of lamps that can be treated at their treatment facility within six months.

NOTE 1 The amount of lamps that can be treated is calculated based on the normal applied production conditions (i.e. number of shifts, working hours per shift, throughput per hour).

Locations that store WEEE prior to treatment shall have:

- impermeable surfaces to prevent ground water and soil contamination;

- weatherproof covering for appropriate areas (see 4.2), so there are no emissions which give rise to an adverse environmental impact.

NOTE 2 Technical requirements for storage of WEEE are described in Annex VIII of Directive 2012/19/EC.

Storage areas for lamps shall be designed and maintained to prevent and control emissions to the environment. Storage areas shall be safely accessible for authorised personnel and their equipment.

5.5 De-pollution

Sub-clause 5.5 is replaced with the following:

The mercury shall be removed from the lamps. The design of the treatment steps shall minimize the release of mercury into the environment in any form.

NOTE As an example, mercury could be removed from lamp fractions (e.g. glass, metal end caps, plastic, ferrous metal scraps and lamp powder) by using an enclosed thermal retort.

Fractions containing mercury shall not be diluted or mixed with other fractions or materials for the purpose of reducing their mercury concentration.

5.6 De-pollution monitoring

Sub-clause 5.6 is replaced with the following:

The mercury content of fractions intended to be recycled shall be monitored on a regular basis and shall not exceed defined limit values. If there is a mercury removal technology in the downstream treatment process the limit values shall be measured after this process has been applied. If there is a mercury removal technology during the production of secondary raw material (e.g. at a smelter) the limit values do not apply.

The monitoring shall include both a description of the procedures to remove the mercury and the measurement of the mercury content of the fractions intended to be recycled.

NOTE 1 The limit values and the monitoring process are being developed and it is proposed that these will be contained in a Technical Specification.

NOTE 2 Remaining mercury in the fractions could present a diffuse source of hazardous emissions when reused or burned.

5.7 Treatment of non de-polluted WEEE and fractions

Sub-clause 5.7 is not applicable.

NOTE The term “non-de-polluted WEEE” in this paragraph refers mostly to WEEE components and substances identified in the Directive 2012/19/EU Annex VII, e.g. capacitors, asbestos, batteries have not yet been removed.

5.8 Storage of fractions

Sub-clause 5.8 is replaced with the following:

All fractions shall be stored in a manner such that they meet the requirements for further treatment or recycling.

All fractions containing hazardous substances shall be stored in a defined area within the treatment facility in a manner that prevents diffusion and dispersal of hazardous substances to the environment.

Containers used for storage of specific fractions containing mercury, shall be cleaned prior to their reuse for the storage of other fractions.

5.9 Recycling and recovery targets

Sub-clause 5.9 is applicable.

5.10 Recovery and disposal of fractions

Sub-clause 5.10 is applicable.

5.11 Occupational health monitoring

Regular monitoring (see Annex AA) shall prove the effectiveness of the measures undertaken by the risk assessment.

The mercury concentration in the air of all working areas (including storage areas) based upon the risk assessment shall be regularly monitored in accordance with Annex AA. Medical checks of employees shall be performed in accordance with Annex AA.

As a best practice target, the occupational limit value at the treatment facility shall not exceed an 8-hour Threshold Limit Values (TLV).

NOTE Commission Directive 2009/161/EU establishes TLV for certain substances, including mercury.

The occupational health monitoring shall be documented by the treatment operator in accordance with Clause 6.

6 Documentation

This clause of Part 1 is applicable.