Determination of certain substances in electrotechnical products - Part 2: Disassembly, disjointment and mechanical sample preparation

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NATIONAL FOREWORD

See Eesti standard EVS-EN 62321-2:2014 sisaldab Euroopa standardi EN 62321-2:2014 inglisekeelset teksti.	This Estonian standard EVS-EN 62321-2:2014 consists of the English text of the European standard EN 62321-2:2014.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.04.2014.	Date of Availability of the European standard is 25.04.2014.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 13.020, 43.040.10

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English version

Determination of certain substances in electrotechnical products - Part 2: Disassembly, disjointment and mechanical sample preparation

(IEC 62321-2:2013)

Détermination de certaines substances dans les produits électrotechniques - Partie 2: Démontage, désassemblage et préparation mécanique de l'échantillon (CEI 62321-2:2013)

Verfahren zur Bestimmung von bestimmten Substanzen in Produkten der Elektrotechnik - Teil 2: Demontage, Zerlegung und mechanische Probenvorbereitung (IEC 62321-2:2013)

CENELEC

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

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Foreword

The text of document 111/301/FDIS, future edition 1 of IEC 62321-2, prepared by IEC/TC 111 "Environmental standardization for electrical and electronic products and systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62321-2:2014.

The following dates are fixed:

• latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-10-25
• latest date by which the national standards conflicting with the document have to be withdrawn	(dow)	2016-11-15

EN 62321-2:2014 is a partial replacement of EN 62321:2009, forming a structural revision and generally replacing Clause 5 and incorporating IEC/PAS 62596:2009 [1][1)] which will be withdrawn upon publication of IEC 62321-2.

Future parts in the EN 62321 series will gradually replace the corresponding clauses in EN 62321:2009. Until such time as all parts are published, however, EN 62321:2009 remains valid for those clauses not yet re-published as a separate part.

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.

Endorsement notice

The text of the International Standard IEC 62321-2:2013 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 62554	NOTE	Harmonised as EN 62554 (not modified).
IEC 62542	NOTE	Harmonised as EN 62542 (not modified).
IEC 62321-6	NOTE	Harmonised as EN 62321-6 (not modified).
IEC 62321-7-1	NOTE	Harmonised as EN 62321-7-1 (not modified).
IEC 62137-1-2	NOTE	Harmonised as EN 62137-1-2 (not modified).

[1)] Numbers in square brackets refer to the Bibliography.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 62321-1	-	Determination of certain substances in electrotechnical products - Part 1: Introduction and overview	EN 62321-1	-
IEC 62321-3-1	-	Determination of certain substances in electrotechnical products - Part 3-1: Screening electrotechnical products for lead, mercury, cadmium, total chromium and total bromine using X-ray Fluorescence Spectrometry	EN 62321-3-1	-
IEC 62321-3-2	-	Determination of certain substances in electrotechnical products - Part 3-2: Screening of total bromine in electric and electronic products by combustion-ion chromatography (C-IC)	EN 62321-3-2	-
IEC 62321-4	-	Determination of certain substances in electrotechnical products - Part 4: Determination of mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS	EN 62321-4	-
IEC 62321-5	-	Determination of certain substances in electrotechnical products - Part 5: Determination of cadmium, lead and chromium in polymers and electronics, and cadmium and lead in metals by AAS, AFS, ICP-OES and ICP-MS	EN 62321-5	-

CONTENTS

INTRODUCTION

The widespread use of electrotechnical products has drawn increased attention to their impact on the environment. In many countries this has resulted in the adaptation of regulations affecting wastes, substances and energy use of electrotechnical products.

The use of certain substances (e.g. lead (Pb), cadmium (Cd) and polybrominated diphenyl ethers (PBDEs)) in electrotechnical products, is a source of concern in current and proposed regional legislation.

The purpose of the IEC 62321 series is therefore to provide test methods that will allow the electrotechnical industry to determine the levels of certain substances of concern in electrotechnical products on a consistent global basis.

WARNING – Persons using this International Standard should be familiar with normal laboratory practice. This standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

DETERMINATION OF CERTAIN SUBSTANCES IN ELECTROTECHNICAL PRODUCTS –

Part 2: Disassembly, disjointment and mechanical sample preparation

1 Scope

This part of IEC 62321 provides strategies of sampling along with the mechanical preparation of samples from electrotechnical products, electronic assemblies and electronic components. These samples can be used for analytical testing to determine the levels of certain substances as described in the test methods in other parts of IEC 62321. Restrictions for substances will vary between geographic regions and from time to time. This Standard describes a generic process for obtaining and preparing samples prior to the determination of any substance which are under concern.

This standard does not provide:

– full guidance on each and every product that could be classified as electrotechnical equipment. Since there is a huge variety of electrotechnical components, with various structures and processes, along with the continuous innovations in the industry, it is unrealistic to attempt to provide procedures for the disjointment of every type of component;

– guidance regarding other routes to gather additional information on certain substances in a product, although the information collected has relevance to the sampling strategies in this standard;

– safe disassembly and mechanical disjointment instructions related to electrotechnical products (e.g. mercury-containing switches) and the recycling industry (e.g. how to handle CRTs or the safe removal of batteries). See IEC 62554 [2] for the disjointment and mechanial sample preparation of mercury-containing fluorescent lamps;

– the definition of a “unit” as the sample;

– sampling procedures for packaging and packaging materials;

– analytical procedures to measure the levels of certain substances. This is covered by other standards (for example other parts of IEC 62321), which are referred to as the "test standard" in this standard;

– guidelines for assessment of compliance.

NOTE Further guidance on assessment procedures is provided by IEC/TR 62476 [3].

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 62321-1, *Determination of certain substances in electrotechnical products – Part 1 Introduction and overview*

IEC 62321-3-1, *Determination of certain substances in electrotechnical products – Part 3-1: Screening – Lead, mercury, cadmium, total chromium and total bromine using X-ray fluorescence spectrometry*

IEC 62321-3-2, *Determination of certain substances in electrotechnical products – Part 3-2: Screening – Total bromine in polymers and electronics by combustion – Ion chromatography (C-IC)*

IEC 62321-4, *Determination of certain substances in electrotechnical products – Part 4: Determination of mercury in polymers, metals and electronics by CV-AAS, CV-AFS, ICP-OES and ICP-MS*

IEC 62321-5, *Determination of certain substances in electrotechnical products – Part 5: Determination of cadmium, lead and chromium in polymers and electronics and cadmium and lead in metals by AAS, AFS, ICP-OES, ICP-AES and ICP-MS* [2]

3 Terms, definitions and abbreviations

3.1 Terms and definitions

For the purposes of this document, the definitions given in IEC 62321-1, as well as the following, apply.

3.1.1
composite testing
testing two or more materials as a single sample that could be mechanically disjointed if necessary

3.1.2
certain substance
cadmium, lead, mercury, hexavalent chromium, polybrominated biphenyl, polybrominated diphenyl ether

NOTE IEC 62321-1 includes test methods for the evaluation of each of the substances identified in the definition above.

3.2 Abbreviations

AC	Alternating current
BGA	Ball grid array (electronic component)
CRT	Cathode ray tube (television)
DVD	Digital versatile disc
IC	Integrated circuit
JEDEC	Joint Electronic Devices Engineering Council
LCD	Liquid crystal display
MDL	Method detection limit
OEM	Original equipment manufacturer
PAS	Publicly Available Specification
PCB	Printed circuit board
PDA	Personal digital assistant
PWB	Printed wiring board
SIM	Subscriber identity module
SMD	Surface mounted device
TFT	Thin film transistor
TV	Television

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