

Australian/New Zealand Standard™

**Collection, storage, transport and
treatment of end-of-life electrical and
electronic equipment**



AS/NZS 5377:2013

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee EV-019, E-Waste. It was approved on behalf of the Council of Standards Australia on 16 January 2013 and on behalf of the Council of Standards New Zealand on 23 January 2013.

This Standard was published on 18 February 2013.

The following are represented on Committee EV-019:

Airconditioning & Refrigeration Equipment Manufacturers Association of Australia
Association of Accredited Certification Bodies
Australian Council of Recyclers
Australian Industry Group
Australian Information Industry Association
Australian Local Government Association
Australian Mobile Telecommunications Association
Community Recycling Network
Consumer Electronics Suppliers Association
Consumers Federation of Australia
Department of Sustainability, Environment, Water, Population and Communities
EPA South Australia
JAS-ANZ
Local Government New Zealand
Ministry for the Environment New Zealand
NSW Environment Protection Authority
Product Stewardship Australia
QLD Department of Environment and Heritage Protection
Scrap Metal Recycling Association of New Zealand
The Eday New Zealand Trust
Total Environment Centre
Waste Contractors and Recyclers Association of NSW
Waste Management Association of Australia
WorkCover New South Wales

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS 5377.

Australian/New Zealand Standard™

Collection, storage, transport and treatment of end-of-life electrical and electronic equipment

First published as AS/NZS 5377:2013.

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 1 74342 351 6

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee EV-019, E-waste.

The objective of this Standard is to provide guidance and specify requirements for the safe and environmentally sound collection, storage, transport and treatment of end-of-life electrical and electronic equipment in order to maximize re-use and material recovery; reduce or eliminate the amount of waste from this equipment going to final disposal operations such as landfill; safeguard worker health; and minimize harm to the environment.

This Standard is designed with the principles of ecological sustainable development in mind, including lifecycle assessment, the precautionary principle and the principle of due diligence. Operations involved in the collection, storage, transport and treatment of electrical and electronic products, whether it be for re-use of parts or recycling purposes, are encouraged to understand all obligations and take all reasonable and practicable steps to ensure that these products are managed in a manner that will protect human health and the environment against the adverse effects that may result from such wastes. Lack of full scientific certainty should not be used as a reason for postponing feasible measures to prevent environmental degradation or adverse health and safety effects.

This Standard recognizes that there are general laws in place regulating how to comply with occupational health and safety requirements and environmental performance. This Standard also recognizes that Australia and New Zealand are signatories to international agreements regarding the environmentally sound management of hazardous and other wastes, and elimination of pollutants. The intention is not to cut across the law, but enhance the legislation and international obligations. If there is any doubt as to a potential conflict between the law and this Standard, professional advice should be sought.

The terms 'normative' has been used in this Standard to define the application of the appendix to which it applies. A 'normative' appendix is an integral part of a Standard.

Statements expressed in mandatory terms in footnotes to tables are deemed to be requirements of this Standard.

CONTENTS

	Page
SECTION 1 SCOPE, OBJECTIVE, APPLICATION AND GENERAL REQUIREMENTS	
1.1 SCOPE.....	4
1.2 OBJECTIVE.....	4
1.3 APPLICATION	4
1.4 DEFINITIONS.....	4
1.5 GENERAL REQUIREMENTS.....	7
1.6 ORGANIZATIONAL REQUIREMENTS	7
1.7 RECORDS MANAGEMENT	9
1.8 DATA SECURITY	9
1.9 DISPOSAL TO LANDFILL	9
1.10 RE-USE AND REFURBISHMENT OF EQUIPMENT	9
SECTION 2 REQUIREMENTS FOR COLLECTION AND STORAGE FACILITIES	
2.1 GENERAL.....	10
2.2 ACCESS	10
2.3 SIGNAGE AND INFORMATION	10
2.4 STORAGE AND HANDLING	10
2.5 BROKEN OR DUMPED MATERIAL	12
SECTION 3 RECOVERY FOR RE-USE FROM END-OF-LIFE ELECTRICAL AND ELECTRONIC EQUIPMENT	
3.1 GENERAL.....	13
3.2 PREPARING FOR RE-USE	13
3.3 HARVESTING OF ASSEMBLIES, COMPONENTS AND PARTS.....	13
3.4 MANAGEMENT OF RESIDUAL WASTE FROM RECOVERY ACTIVITIES	14
SECTION 4 REQUIREMENTS FOR TRANSPORTATION	
4.1 GENERAL.....	15
4.2 OBJECTIVES OF TRANSPORTING END-OF-LIFE ELECTRICAL AND ELECTRONIC EQUIPMENT	15
4.3 GENERAL TRANSPORTATION REQUIREMENTS	15
4.4 DOMESTIC TRANSPORTATION	15
SECTION 5 REQUIREMENTS FOR THE TREATMENT OF END-OF-LIFE ELECTRICAL AND ELECTRONIC EQUIPMENT	
5.1 GENERAL.....	16
5.2 PROCESSING AND HANDLING	16
5.3 TRACEABILITY	21
5.4 RECYCLING AND RECOVERY RECORD MANAGEMENT.....	21
APPENDICES	
A ITEMS DESIGNATED AS ELECTRICAL AND ELECTRONIC EQUIPMENT	22
B PROCESSING, END USE AND METHOD OF DISPOSAL FOR END-OF-LIFE ELECTRICAL AND ELECTRONIC EQUIPMENT	27
C GENERAL GUIDANCE ON RE-USE AND REFURBISHMENT OF ELECTRICAL AND ELECTRONIC EQUIPMENT	33
D DETERMINATION OF RECYCLING AND RECOVERY RATES	36
BIBLIOGRAPHY.....	40

STANDARDS AUSTRALIA/STANDARDS NEW ZEALAND

Australian/New Zealand Standard**Collection, storage, transport and treatment of end-of-life electrical and electronic equipment**SECTION 1 SCOPE, OBJECTIVE,
APPLICATION AND GENERAL
REQUIREMENTS**1.1 SCOPE**

This Standard sets out principles and minimum requirements for the safe and environmentally sound collection, storage, transport and treatment of end-of-life electrical and electronic equipment in order to maximize re-use and material recovery, reduce or eliminate the amount of waste from this equipment going to final point of disposal operations such as landfill, safeguard worker health, and minimize harm to the environment. This Standard covers electrical and electronic equipment, as outlined in Appendix A, designed for a supply voltage not exceeding 1000 volts for alternating current and 1500 volts for direct current.

1.2 OBJECTIVE

The purpose of this Standard is to—

- (a) provide collection, storage, transport and recycling facilities with guidance and minimum requirements for handling, transporting, resource recovery and disposal of end-of-life electrical and electronic equipment, diverting it from landfill;
- (b) assist collection, storage, transport and recycling facilities to develop, implement and maintain management processes; and
- (c) give confidence to parties and stakeholders of the benchmarks against which to gauge performance of collection, storage, transport and recycling facilities.

1.3 APPLICATION

This Standard is intended to be used by parties involved in the collection, storage, transport, and treatment of end-of-life electrical and electronic equipment.

This Standard is intended to be read in conjunction with the relevant legal and other requirements for occupational health and safety and environmental performance.

1.4 DEFINITIONS

For the purpose of this Standard, the definitions below apply.

1.4.1 Assembly

A number of electronic components (i.e., ‘circuit elements’, ‘discrete components’, ‘integrated circuits’, etc.) connected together to perform specific functions, replaceable as an entity and normally capable of being disassembled.

1.4.2 Batch

Manual or mechanical processing of a definite and well-defined amount of e-waste or fractions thereof to determine the yields and compositions of the resulting output fractions and treatment performance in material recovery and removal of hazardous waste.