

ABB DRIVES

ACS480 and ACH480 drives

Recycling instructions and environmental information



List of related manuals

Drive hardware manuals and guides

	Code (English)
ACS480 and ACH480 drives recycling instructions and environmental information	3AXD50000102372
ACS480 drives hardware manual	3AXD50000047392
ACS480 drive quick installation and start-up guide	3AXD50000047400
ACH480 drives hardware manual	3AXD50000245949
ACH480 drive quick installation and start-up guide	3AXD50000247141

Drive firmware manuals and guides

ACS480 standard control program firmware manual	3AXD50000047399
ACH480 HVAC control program firmware manual	3AXD50000247134

Option manuals and guides

Manuals and quick guides for I/O extension modules, fieldbus adapter, etc.

You can find manuals and other product documents in PDF format on the Internet. See section Document library on the Internet on the inside of the back cover. For manuals not available in the Document library, contact your local ABB representative.

The codes below opens an online listing of the manuals applicable to the product:



[ACS480 manuals](#)



[ACH480 manuals](#)

Recycling instructions and environmental information

ACS480 and ACH480 drives

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Further information







1

Introduction to the manual

What this chapter contains

This chapter describes the contents of the manual. It also contains information on the compatibility and intended audience.

Applicability

This document covers the environmental information of the following products:

- ACS480 drives with option modules
- ACH480 drives with option modules.

Target audience

This document is intended for ABB customers and for professional recyclers.

Contents of the manual

This manual contains the following chapters:

- *Product materials*
 - *Manufacturing and use*
 - *Product disposal*
-

Frame size

This manual covers all different frame sizes of the product family. The frame size is marked on the type designation label of the drive. The frame size is also shown in the rating tables for each drive type. The rating tables are in the *drive hardware manual*.

Disclaimer

The information presented in this publication does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequences of its use. Publication thereof does not convey nor imply any license under patent - or other industrial or intellectual - property rights.



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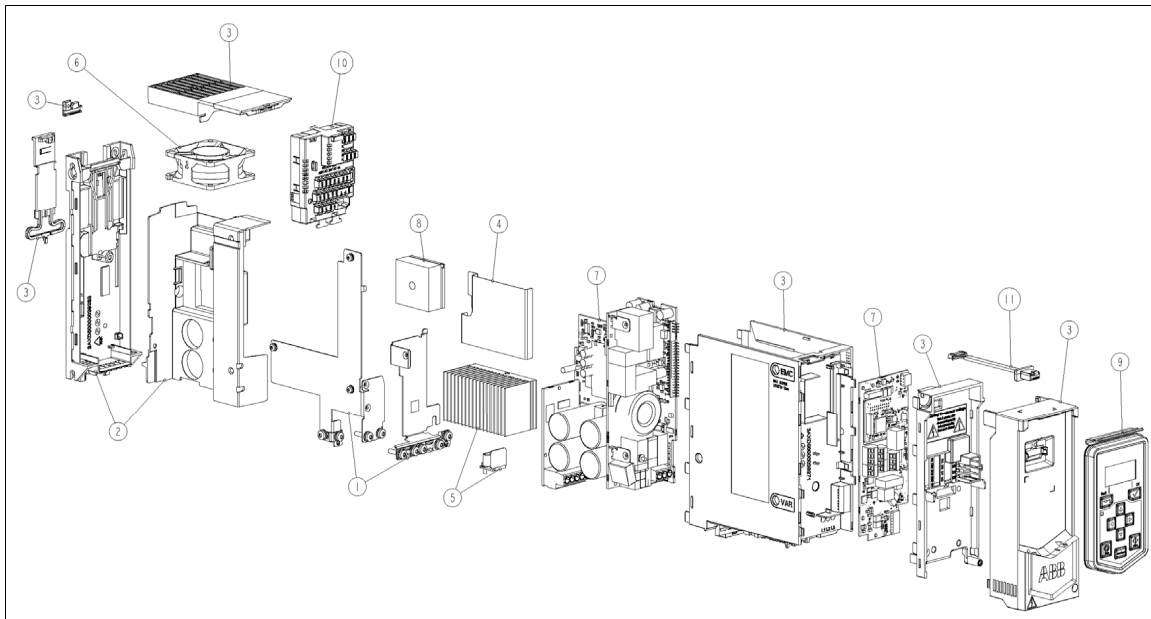
Product materials

Contents of this chapter

This chapter describes the main components and product materials of the ACS480 and ACH480 drives.

Materials of frame R1

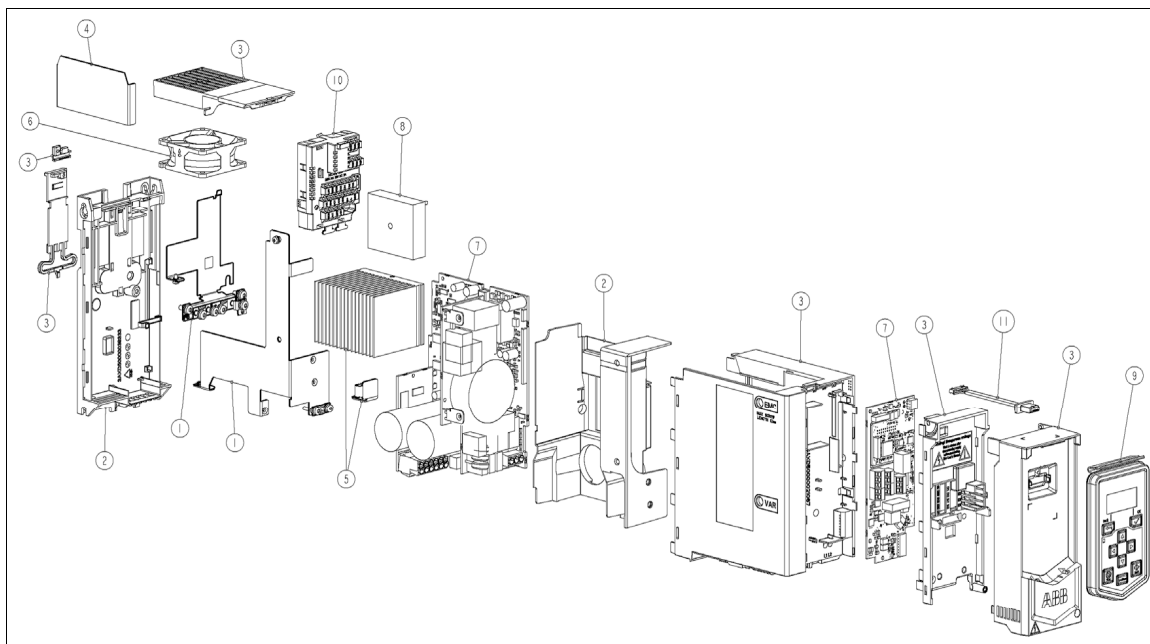
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Sheet metal parts	5	Zn-coated Fe	119
2	Reinforced plastic parts	2	Plastic: PC+10% GF	146
3	Housing / cover parts	6	Plastic: ABS PC	401
4	Insulating sheets	1	Plastic: PC	2
5	Heat sink and other aluminum parts	2	Aluminum: AW-6060 [Al Mg Si]	167
6	Axial fan	1	Various materials, plastic parts: PBT, aluminum alloy	70
7	Printed circuit board	4	Various materials, electronic components	662
8	Semiconductor	1	Cu, Al oxide, Sn, silicone gel, PBT, GF	50
9	Control panel	1	See subsection Materials of the control panel	86
10	Option IO	1	See subsection Materials of the option IO	110
11	Cable	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	4
Total weight appr.				1.8 kg

Materials of frame R2

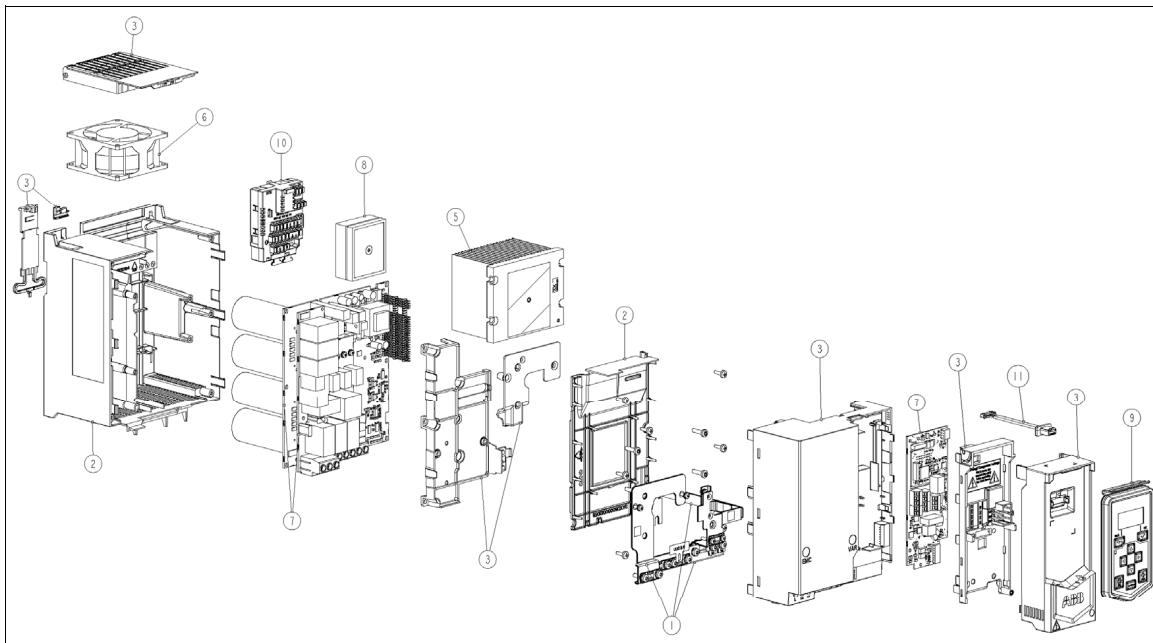
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Sheet metal parts	6	Zn-coated Fe	136
2	Reinforced plastic parts	2	Plastic: PC+10% GF	146
3	Housing / cover parts	6	Plastic: ABS PC	401
4	Insulating sheets	1	Plastic: PC	2
5	Heat sink and other aluminum parts	2	Aluminum: AW-6060 [Al Mg Si]	252
6	Axial fan	1	Various materials, plastic parts: PBT, aluminum alloy	70
7	Printed circuit board	4	Various materials, electronic components	863
8	Semiconductor	1	Cu, Al oxide, Sn, silicone gel, PBT, GF	99
9	Control panel	1	See subsection Materials of the control panel	86
10	Option IO	1	See subsection Materials of the option IO	110
11	Cable	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	4
Total weight appr.				2.3 kg

Materials of frame R3

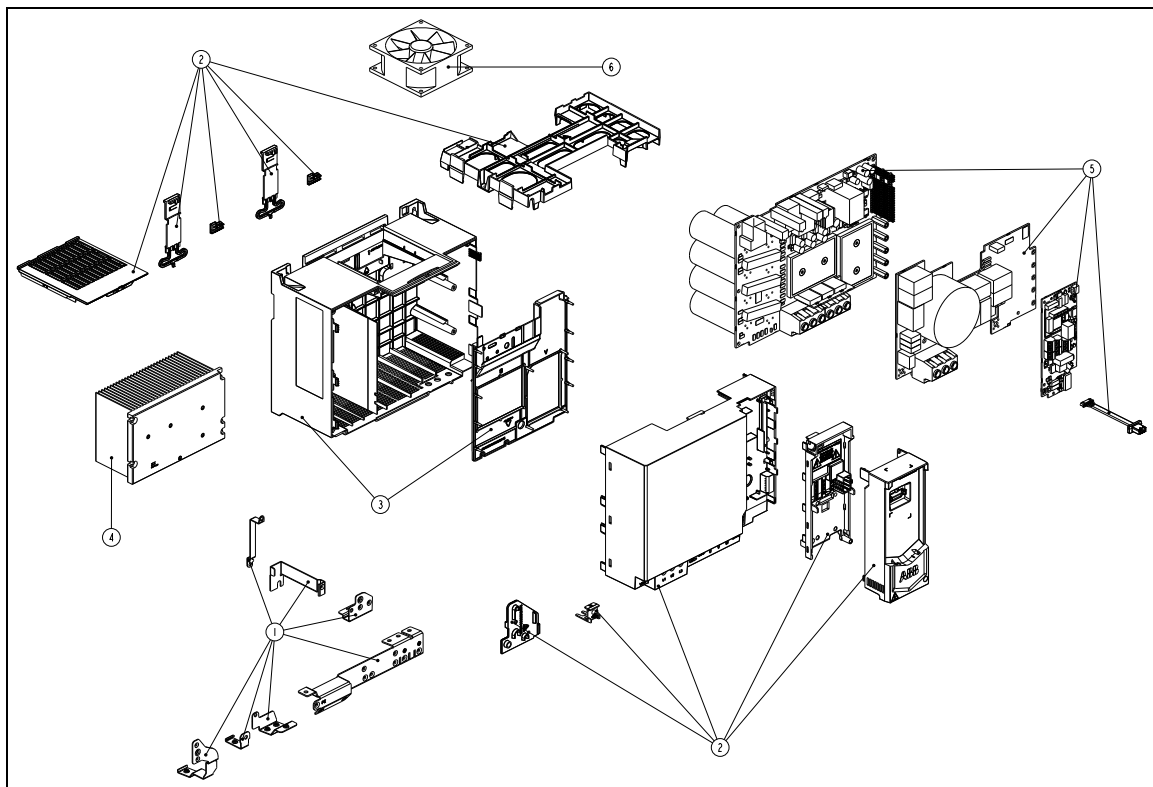
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Sheet metal parts	8	Zn-coated Fe	113
2	Reinforced plastic parts	2	Plastic: PC+10% GF	493
3	Housing / cover parts	8	Plastic: ABS PC	519
4	Insulating sheets	N/A	Plastic: PC	N/A
5	Heat sink and other aluminum parts	1	Aluminum: AW-6060 [Al Mg Si]	554
6	Axial fan	1	Various materials, plastic parts: PBT, aluminum alloy	200
7	Printed circuit board	3	Various materials, electronic components	1365
8	Semiconductor	1	Cu, Al oxide, Sn, silicone gel, PBT, GF	99
9	Control panel	1	See subsection Materials of the control panel	86
10	Option IO	1	See subsection Materials of the option IO	110
11	Cable	1	PVC, Cu, GF, Sn, Au, Ni, phosphor bronze, thermoplastic polyester, glass-filled nylon	4
Total weight appr.				3.5 kg

Materials of frame R4

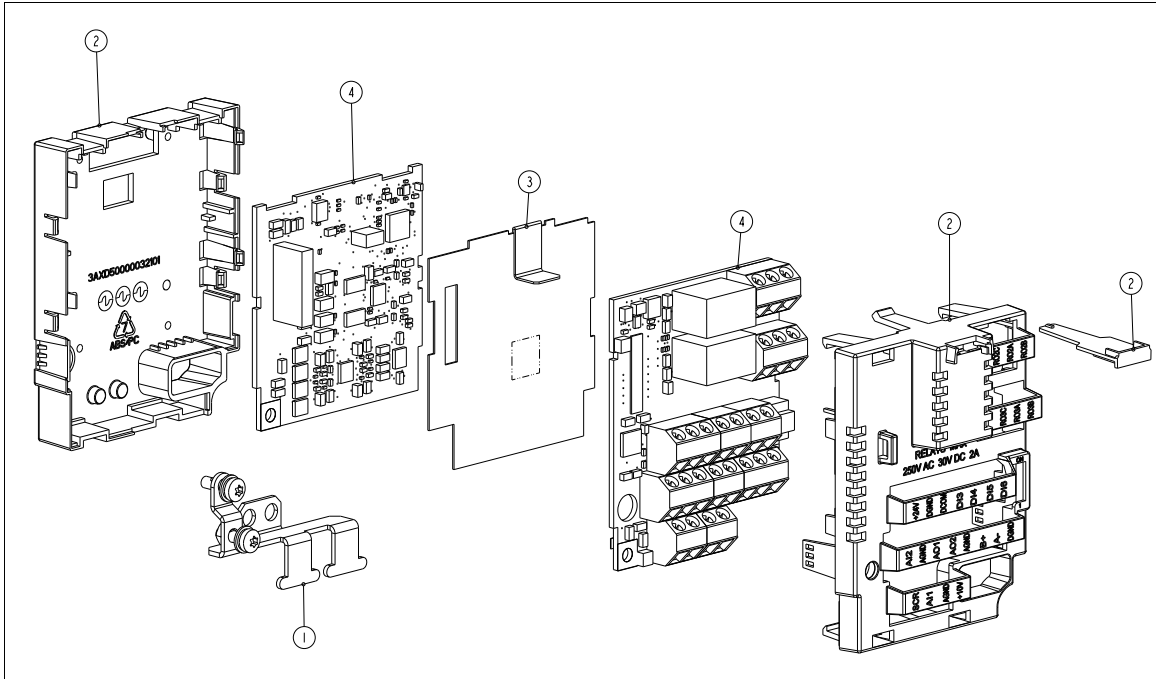
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Sheet metal parts	7	Zn-coated Fe	220
2	Housing / cover parts	11	Plastic: ABS PC TPE PET	640
3	Reinforced plastic parts	2	Plastic: PC+10% GF	690
4	Heat sink + other aluminum parts	1	Aluminum: AW 6060: Al Mg Si	1130
5	Printed circuit board	4	Various materials, electronic components	2500
6	Axial fan	1	Various materials, plastic parts: PBT, aluminum alloy	240
Total weight appr.				5.4 kg

Materials of the option IO

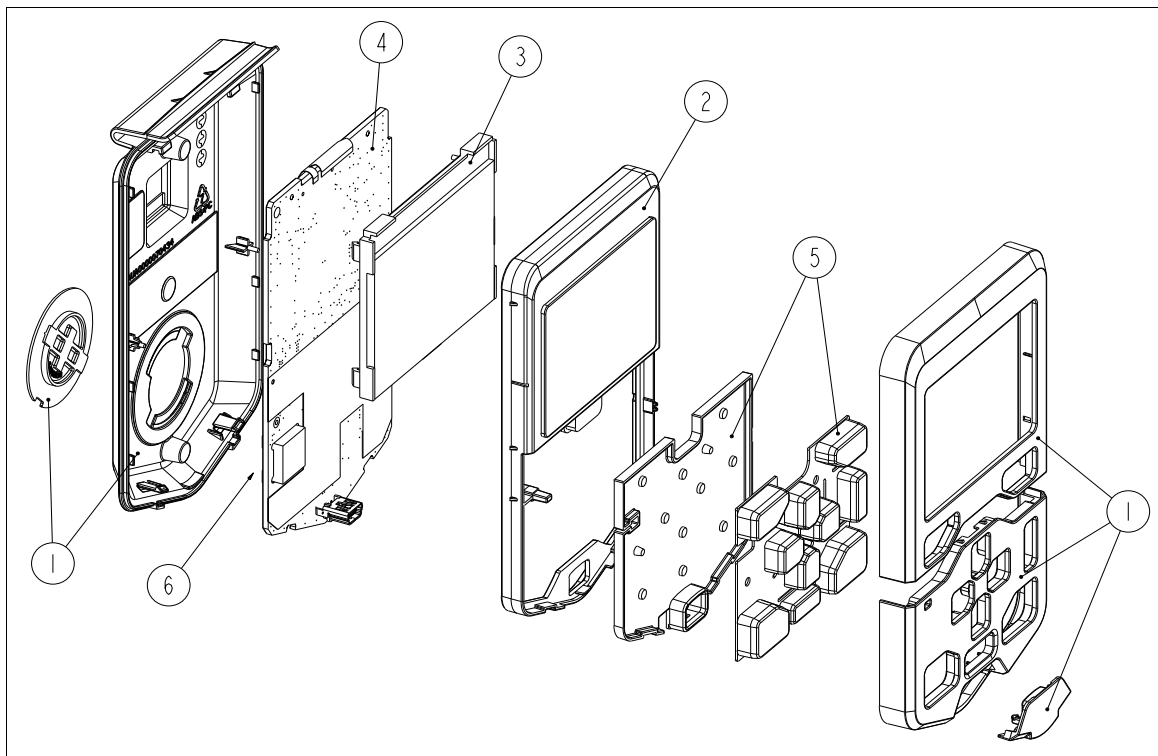
The main components are shown in the figure below.



Part No.	Name	Qty	Materials	Weight / g
1	Sheet metal parts	1	Zn-coated Fe	7.3
2	Housing / cover parts	3	Plastic: ABS PC	26
3	Insulating sheets	1	Plastic: PC	1.5
4	Printed circuit board	2	Various materials, electronic components	72.5
Total weight appr.				110 g

Materials of the control panel

The main components are shown in the figure below.



Part	Category	Qty	Materials	Weight (g)
1	Housing parts	4	Plastic: ABS PC	40
2	Lens	1	Plastic: PC	15
3	LCD display	1	Various materials	20
4	Printed circuit board	1	Various material, electronic components.	45
5	Keypad	2	Silicone rubber	20
6	CR 2032 lithium battery	1	Various materials	3
Total weight				143 g

Abbreviations

Plastics and rubber:	
ABS	Acrylonitrile-butadiene-styrene
GF	Glass fiber
PBT	Polybutylene terephthalate
PC	Polycarbonate
PET	Polyethylene terephthalate
PVC	Polyvinyl chloride
TPE	Thermoplastic elastomer

Package

The product package is made of corrugated cardboard. Depending on the product type, the package materials may also contain:

- birch plywood
- pressed woodchip
- glue
- nails.

You can recycle all materials used in the package.

To avoid pollution caused by unnecessary transportation, the factory does not take back used packages. The local ABB companies give instructions on the package recycling when necessary.

ABB recommends package recycling as it preserves raw materials and reduces waste being landfilled.

Product manuals and sales brochures

To save natural resources and reduce paper waste, all product manuals are available in ABB Library and on the Internet.



Manufacturing and use

Manufacturing

ABB Oy (Finland) has a company-wide integrated quality, environmental and occupational health & safety management system. The system is certified in accordance with requirements of the international standards ISO 9001 and ISO 14001.

The Integrated Management System applies to all units of the company.

Use

The use of a drive has several positive environmental impacts, such as:

- Substantial energy savings and reduced operating costs can be reached using a drive. Rather than have an electric motor running continuously at full speed, an electric drive allows the user to slow down or speed up the motor.
- Process control is optimized. An electric drive enables a process to achieve the right speed and torque while maintaining its accuracy.
- Need for maintenance is reduced. Being able to vary the speed and torque of an electric motor means there is less wear and tear on the motor and the driven machine.

For more information on ABB Policy on Health, Safety, Environment, Security and Sustainability, see new.abb.com/sustainability/abb-policy-on-health-safety-environment-security-and-sustainability.

For more information on ABB group sustainability objectives, see new.abb.com/sustainability/creating-value/objectives.



Product disposal

Contents of this chapter

This chapter contains product disposal instructions.

Disposal

The main parts of the drive can be recycled to preserve natural resources and energy. Product parts and materials should be dismantled and separated.

Generally all metals, such as steel, aluminum, copper and its alloys, and precious metals can be recycled as material. Plastics, rubber, cardboard and other packaging material can be used in energy recovery.

Printed circuit boards and DC capacitors need selective treatment according to IEC 62635 guidelines.

To aid recycling, plastic parts are marked with an appropriate identification code.

Contact your local ABB distributor for further information on environmental aspects. End of life treatment must follow international and national regulations.

For more information on ABB end of life services, see new.abb.com/service/end-of-life-services.

Dismantling

You can dismantle the drive manually or in a shredding machine. The chapter is divided in two sections on basis of the dismantling method.

■ Manual dismantling

Sort the parts of the product according to their material contents as follows:

- ferrous metals (plates, screws)
- aluminum (heatsink)
- plastics
- printed circuit boards
- electrolytic capacitors
- other.

You can recycle metal parts (iron and aluminum) and most of the other materials according to local regulations.

For information on harmful materials, see subsection [ABB list of prohibited and restricted substances](#).

■ Mechanical shredding

In this method, a whole product is mechanically shredded into small pieces and materials are sorted using dedicated sorting processes.

Remove the harmful material before shredding the drive in the shredding machine. See subsection [ABB list of prohibited and restricted substances](#).

ABB list of prohibited and restricted substances

The purpose of this list is to comply with legislation to avoid chemical substances that may present hazards to the environment or the health.

This document provides information about “Prohibited substances”, substances that must not be used, and “Restricted substances”, substances whose use should be limited within ABB.

Definitions and regulations of hazardous materials differ from country to country and are likely to change when knowledge of materials increases. The materials used in the product are materials typically used in electrical and electronic equipment.

■ Reference list

1. Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS II).
 2. Regulation No 1907/2006/EC of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):
 - Annex XIV: List of substances subject to authorization
 - Annex XVII: Restrictions on use of substances in articles
 - SVHC: Candidate list of substances of very high concern for authorization.
 3. Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (WEEE).
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A recycling example

This example complies with typical national regulations valid at the time of publishing this manual.

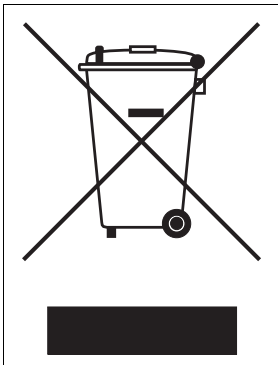
Materials	Recycling method
Steel	Recycled as material
Aluminum	Recycled as material
Plastics	Energy recovery (incineration)
Printed circuit boards	Recycled as WEEE
Electrolytic capacitors	Recycled as WEEE
Cables	Recycled as material
Ceramics	Landfilled
Other materials	Energy recovery (incineration)

Recycling information in accordance with the WEEE

The product is marked with the wheelie bin symbol. It indicates that at the end of life the product should enter the recycling system.

You should dispose of it separately at an appropriate collection point and not place it in the normal waste stream.

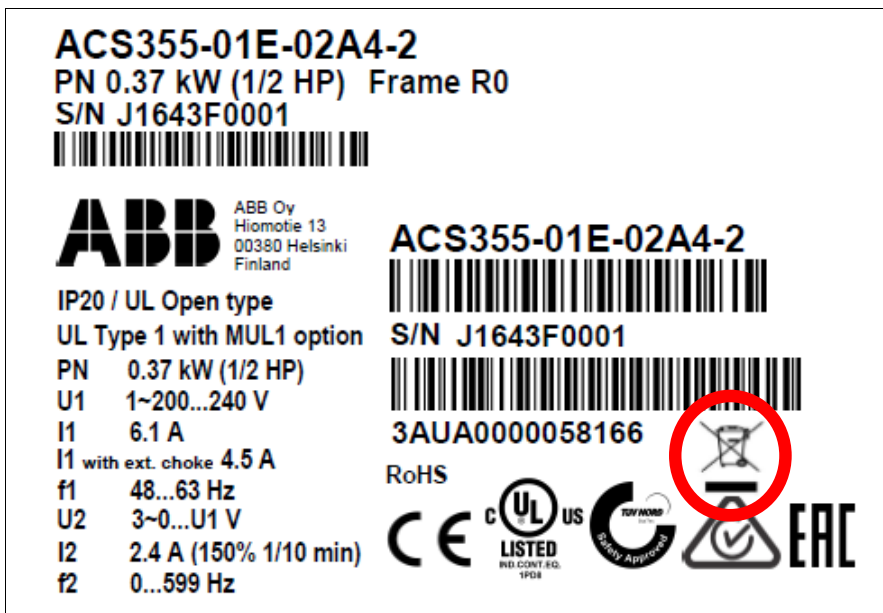
The figure below shows the wheelie bin symbol indicating separate collection for electrical and electronic equipment (EEE).



The horizontal bar underneath the crossed-out wheelie bin indicates that the equipment has been manufactured after the Directive came into force in 2005.

The wheelie bin symbol is added to the type designation label of the product since 2017.

The figure below shows an example.



The manual contains information for treatment facilities in accordance with the EU directive on waste electrical and electronic equipment (WEEE).

The WEEE directive is implemented through national regulations and therefore requirements vary in each EU member state.

Drives are always parts of other machines or equipment and they are covered by the WEEE directive when the end product is covered. Inclusion or exclusion depends on the application of the drive.

The WEEE directive does not apply to drives which are used in large-scale fixed installations, large-scale stationary industrial tools, means of transport for persons and goods, or non-road mobile machinery made available exclusively for professional use.

We recommend to contact local environment authorities for up-to-date information about national recycling requirements.

Further information

Product and service inquiries

Address any inquiries about the product to your local ABB representative, quoting the type designation and serial number of the unit in question. A listing of ABB sales, support and service contacts can be found by navigating to abb.com/searchchannels.

Product training

For information on ABB product training, navigate to new.abb.com/service/training.

Providing feedback on ABB Drives manuals

Your comments on our manuals are welcome. Navigate to new.abb.com/drives/manuals-feedback-form.

Document library on the Internet

You can find manuals and other product documents in PDF format on the Internet at abb.com/drives/documents.



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