



Safety of machinery

Part 3401: Safety of packaging machines—Terminology and classification of packaging machines and associated equipment

This Australian Standard is an identical adoption of EN 415-1:2014, Safety of packaging machines — Part 1: Terminology and classification of packaging machines and associated equipment, with the permission of the European Committee for Standardization - CEN, Avenue Marnix 17, B-1000 Brussels, Belgium.

STANDARDS
Australia



AS 4024.3401:2018

This Australian Standard® was prepared by SF-041, Safety of Machinery. It was approved on behalf of the Council of Standards Australia on 7 February 2018.

This Standard was published on 3 May 2018.

The following are represented on Committee SF-041:

Australian Industry Group
Australian Manufacturing Workers' Union
Australian Packaging and Processing Machinery Association
Engineers Australia
Human Factors and Ergonomics Society of Australia
Institute of Instrumentation, Control and Automation, Australia
NSCA Foundation
NSW Department of Industry, Skills and Regional Infrastructure Development
Safety Institute of Australia
SafeWork NSW
Swinburne University of Technology
University of Melbourne
Workplace Health and Safety Queensland
WorkSafe Victoria

This Standard was issued in draft form for comment as DR AS EN 4024.3401:2017.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:

www.standards.org.au

www.saiglobal.com (sales and distribution)

ISBN 978 1 76072 010 0



Safety of machinery

Part 3401: Safety of packaging machines—Terminology and classification of packaging machines and associated equipment

First published as AS 4024.3401:2018.

COPYRIGHT

© CEN 2018 — All rights reserved
© Standards Australia Limited 2018

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 (Cth).

Published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001, Australia.

Preface

This Standard was prepared by the Australian members of the Joint Standards Australia/Standards New Zealand Committee SF-041, Safety of Machinery.

The objective of this Standard is to define the field of packaging machines. The machines defined fall within the following general groups:

- (a) Filling machines.
- (b) Closing machines.
- (c) Labelling, decorating and coding machines.
- (d) Cleaning, sterilizing, cooling and drying machines.
- (e) Fill and seal machines.
- (f) Inspection machines.
- (g) Container and packaging component handling machines.
- (h) Form, fill and seal machines.
- (i) Carton erecting, carton closing and cartoning machines.
- (j) Wrapping machines.
- (k) Group or secondary packaging machines.
- (l) Palletizers, depalletizers and ancillary equipment.
- (m) Pallet wrapping machines.
- (n) Strapping machines.

This Standard is identical with, and has been reproduced from, EN 415-1:2014, *Safety of packaging machines, Part 1: Terminology and classification of packaging machines and associated equipment*.

As this document has been reproduced from an International Standard, the following applies:

- (i) In the source text 'this European Standard' and 'this part of EN 415' should read 'this Australian Standard'.
- (ii) A full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms 'normative' and 'informative' are used in Standards to define the application of the appendices or annexes to which they apply. A 'normative' appendix or annex is an integral part of a Standard, whereas an 'informative' appendix or annex is only for information and guidance.

Contents

	Page
Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	6
3.1 Filling machines.....	6
3.2 Closing machines	8
3.3 Labelling, decorating and coding machines.....	11
3.4 Cleaning, sterilising, cooling and drying machines.....	13
3.5 Fill and seal machines.....	15
3.6 Inspection machines	16
3.7 Container and packaging component handling machines	18
3.8 Form, fill and seal machines.....	19
3.9 Carton erecting, carton closing and cartoning machines	21
3.10 Wrapping machines.....	23
3.11 Group or secondary packaging machines.....	25
3.12 Palletizers, depalletizers and ancillary equipment.....	27
3.13 Pallet wrapping machines.....	29
3.14 Strapping machines	30
3.15 Terms used in this standard and other parts of EN 115	31
Annex A (normative) Safety requirements for packaging machines.....	40
Annex B (informative) Packaging machine names in English, French, German and Italian	48
Annex C (informative) New Machines and Definitions.....	62
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	63

Foreword

This document (EN 415-1:2014) has been prepared by Technical Committee CEN/TC 146 "Packaging machines - Safety", the secretariat of which is held by UNI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by January 2015 and conflicting national standards shall be withdrawn at the latest by January 2015.

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

This document supersedes EN 415-1:2000+A1:2009.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directives, see informative Annex ZA, which is an integral part of this document.

This part 1 of EN 415, *Safety of packaging machines* belongs to a series of documents, the other parts of which are the following:

- *Part 2: Pre-formed rigid container packaging machines*
- *Part 3: Form, fill and seal machines*
- *Part 4: Palletisers and depalletisers*
- *Part 5: Wrapping machines*
- *Part 6: Pallet wrapping machines*
- *Part 7: Group and secondary packaging machines*
- *Part 8: Strapping machines*
- *Part 9: Noise measurement methods for packaging machines, packaging lines and associated equipment, grade of accuracy 2 and 3*
- *Part 10: General requirements*

Standards for packaging machines

The appropriate standard to find safety requirements for a particular packaging machine defined in Clause 3, is indicated in Annex A of this standard.

NOTE — In most cases the safety requirements will be found in another part of EN 415, however for a few machines the safety requirements will be found in another type of standard.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

Packaging machines are used extensively in Europe, in an increasingly wide range of industries. They contain many hazards and have the potential to cause serious injury.

There are an enormous variety of packaging machines, but hitherto there has been no internationally agreed nomenclature. This has led to confusion when reporting accidents and interpreting accident and trade statistics. The purpose of this standard is to name and define each group of packaging machines uniquely. In most cases, these names will already be in common use, however in some cases the commonly used name is ambiguous, a trade name, or used to describe more than one significantly different type of machine. In these cases, a less familiar name will be defined. The identification of specific types of packaging machines and their definition assists in the correct application of the EN 415 series of standards and other standards that may be relevant for packaging machines. Machine designers, manufacturers, suppliers, importers, users, enforcing authorities and other interested bodies are encouraged to use the nomenclature in this type "C" standard to improve communication and to avoid confusion, particularly when reporting accidents and preparing the documentation required by EU Directives.

1 Scope

This European Standard defines the field of packaging machines. The machines defined fall within the following general groups:

- filling machines;
- closing machines;
- labelling, decorating and coding machines;
- cleaning, sterilizing, cooling and drying machines;
- fill and seal machines;
- inspection machines;
- container and packaging component handling machines;
- form, fill and seal machines;
- carton erecting, carton closing and cartoning machines;
- wrapping machines;
- group or secondary packaging machines;
- palletizers, depalletizers and ancillary equipment;
- pallet wrapping machines;
- strapping machines.

This part of EN 415 indicates the relevant machine specific part of EN 415, or another relevant standard, where safety requirements for dealing with the hazards associated with these machines can be found.

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.

EN 415-2, *Packaging machines safety — Part 2: Pre-formed rigid container packaging machines*

EN 415-3, *Safety of packaging machines — Part 3: Form, fill and seal machines*

EN 415-4, *Safety of packaging machines — Part 4: Palletisers and depalletisers*

EN 415-5, *Safety of packaging machines — Part 5: Wrapping machines*

EN 415-6, *Safety of packaging machines — Part 6: Pallet wrapping machines*

EN 415-7, *Safety of packaging machines — Part 7: Group and secondary packaging machines*