



Safety of machinery

Part 3404: Safety of packaging machines—Palletisers and depalletisers

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- Human Factors and Ergonomics Society of Australia
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- NSCA Foundation
- NSW Department of Industry, Skills and Regional Infrastructure Development
- Safety Institute of Australia
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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 specify the safety requirements for the design, manufacture and information for safe use of palletisers, depalletisers, and stackers/unstackers of empty pallets integrated or not into a (de)palletiser as defined in Clause 3.1.

This Standard is identical with, and has been reproduced from, EN 415-4:1997, *Safety of packaging machines, Part 4: Palletisers and depalletisers*.

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

- (a) In the source text 'this European Standard' should read 'this Australian Standard'.
- (b) 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.

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Foreword

This European Standard 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of an identical text or by endorsement, at the latest by September 1997, and conflicting national standards shall be withdrawn at the latest by September 1997.

EN 415 consists of the following parts under the general title "Safety of packaging machines" :

- Part 1 Terminology and classification of packaging machines and associated equipment
- Part 2 Preformed rigid container packaging machines
- Part 3 Form, fill and seal machines
- Part 4 Palletisers and depalletisers

This European Standard 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).

The annex A is normative.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this 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, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

The extent to which hazards are covered is indicated in the scope of this standard. In addition, machinery shall comply as appropriate with EN 292 for hazards which are not covered by this standard.

1 Scope

This standard specifies the safety requirements for the design, manufacture and information for safe use of palletisers, depalletisers, and stackers/unstackers of empty pallets integrated or not into a (de)palletiser as defined in 3.1. In many respects palletisers and depalletisers present the same risks. In this text they are referred to together as (de)palletisers.

For manipulating industrial robots used in (de)palletiser applications this standard and EN 775 apply.

These safety requirements apply to automatic and semi-automatic (de)palletisers. They take into account the hazards which may occur during setting, commissioning and decommissioning, adjustment, use according to the information given by the manufacturer, maintenance (both preventive and repair) and cleaning.

This standard does not cover the following hazards which can occur on (de)palletisers in certain circumstances :

- Heat;
- Noise;
- Radiation;
- Fumes, gas, dust;
- Vibration;
- Ergonomics (see EN 614-1:1995).

Furthermore this standard does not cover hazards arising from contents of the load (e.g. toxic or flammable materials).

Linked equipment, before and after the (de)palletiser, which is not an integral part of (de)palletising machinery, (for example pallet load securing) is not covered by this standard.

This standard applies primarily to the machines which are manufactured after the date of issue of the standard.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 292-1:1991	Safety of machinery - Basic concepts, general principles for design Part 1 : Basic terminology, methodology
EN 292-2:1991	Safety of machinery - Basic concepts, general principles for design Part 2 : Technical principles and specifications
EN 294:1992	Safety of machinery - Safety distances to prevent danger zones being reached by the upper limbs
EN 349	Safety of machinery - Minimum gaps to avoid crushing of parts of the human body
EN 418	Safety of machinery - Emergency stop equipment, functional aspects - Principles for design
EN 614-1:1995	Safety of machinery - Ergonomic design principles - Part 1 : Terminology and general principles
prEN 619:1991	Continuous handling equipment and systems - Equipment for mechanical handling of unit loads only - Special safety requirements for design, manufacturing, erections and commissioning stages
EN 775:1992	Manipulating industrial robots - Safety (ISO 10218:1992, modified)
prEN 953:1992	Safety of machinery - General requirements for the design and construction of guards (fixed, movable)
prEN 954-1:1992	Safety of machinery - Safety related parts of control systems - Part 1 : General principles for design
EN 982:1996	Safety requirements for fluid power systems and components - hydraulics
EN 983:1996	Safety requirements for fluid power systems and components - pneumatics
prEN 999:1993	Safety of machinery - Hand/arm speed - Approach speed of parts of the body for the positioning of safety devices
EN 1037	Safety of machinery - Prevention of unexpected start-up
EN 1050:1996	Safety of machinery - Risk assessment
ENV 1070	Safety of machinery - Terminology
EN 1088:1995	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection
prEN 50100-1:1994	Safety of machinery - Electrosensitive protective equipment - Part 1 : General requirements and tests
EN 60204-1:1992	Safety of machinery - Electrical equipment of machines - Part 1 : General requirements (IEC 204-1:1992, modified)