

**Pakkemasinate ohutus. Osa 1: Pakkemasinate ja  
tarvikute terminoloogia ja klassifikatsioon  
KONSOLIDEERITUD TEKST**

Packaging machines safety - Part 1: Terminology and  
classification of packaging machines and associated  
equipment CONSOLIDATED TEXT

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 415-1:2000+A1:2009 sisaldab Euroopa standardi EN 415-1:2000+A1:2009 ingliskeelset teksti.</p> <p>Standard on kinnitatud Eesti Standardikeskuse 30.06.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 25.02.2009.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 415-1:2000+A1:2009 consists of the English text of the European standard EN 415-1:2000+A1:2009.</p> <p>This standard is ratified with the order of Estonian Centre for Standardisation dated 30.06.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.</p> <p>Date of Availability of the European standard text 25.02.2009.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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English Version

## Packaging machines safety - Part 1: Terminology and classification of packaging machines and associated equipment

Sécurité des machines d'emballage - Partie 1:  
Terminologie et classification des machines d'emballage et  
de l'équipement associé

Sicherheit von Verpackungsmaschinen - Teil 1:  
Terminologie und Klassifikation von Bezeichnungen für  
Verpackungsmaschinen und zugehörige Ausrüstungen

This European Standard was approved by CEN on 16 April 1999 and includes Amendment 1 approved by CEN on 5 January 2009.

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## Foreword

This document (EN 415-1:2000+A1:2009) 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of an identical text or by endorsement, at the latest by August 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

This document includes Amendment 1, approved by CEN on 2009-01-05.

This document supersedes EN 415-1:2000.

The start and finish of text introduced or altered by amendment is indicated in the text by tags **A1** **A1**.

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).

**A1** For relationship with EU Directive(s), see informative Annexes ZA and ZB, which are integral parts of this document. **A1**

Other parts of this standard will include

**A1** EN 415 Safety of packaging machines; **A1**

Part 2: Pre-formed rigid container packaging machines

Part 3: Form, fill and seal machines.

Part 4: Palletizers and depalletizers.

Part 5: Wrapping machines.

**A1** 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 auxiliary equipment - Grade 2 and 3 accuracy. **A1**

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, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and 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. Designers, manufacturers, suppliers, importers, users, enforcing authorities and other interested bodies are encouraged to use this nomenclature 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 in detail in clause 3, but briefly these are:

Filling and Dosing machines

Closing machines

Labelling, decorating and coding machines

Cleaning, sterilising, cooling and drying machines

Fill and seal machines

Inspection machines

Container and component handling machines

Form, fill and seal machines

Cartoning machines

Wrapping machines

Group or transit packaging machines

Pallet or loading unit forming, dismantling and securing machines

Annex A indicates where hazards and safety requirements for these machines can be found. In most cases this will be in one of the parts of EN415, but in some cases it may be another European or ISO standard. Where no specific standard covers a particular machine Annex A will indicate the most appropriate standard which can be referred to for advice.

## 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.

**A1** *deleted text* **A1**

EN 415-2:1999, *Safety of packaging machines – Part 2: Pre-formed rigid container packaging machines.*

EN 415-3:1999, *Safety of packaging machines – Part 3: Form, fill and seal machines.*

EN 415-4:1997, *Packaging machines safety – Part 4: Palletizers and depalletizers.*

**A1** EN 415-5:2006, *Packaging machines safety – Part 5: Wrapping machines.*

EN 415-6:2006, *Packaging machines safety – Part 6: Pallet wrapping machines.*

EN 415-7:2006, *Safety of packaging machines – Part 7: Group and secondary packaging machines.* **A1**

EN 422:1995, *Rubber and plastics machines – Safety - Blow moulding machines intended for the production of hollow articles - Requirements for the design and construction.*

**A1** EN ISO 12100-1:2003, *Safety of machinery - Basic concepts, general principles for design – Part 1: Basic terminology, methodology (ISO 12100-1:2003).*

EN ISO 12100-2:2003, *Safety of machinery - Basic concepts, general principles for design – Part 2: Technical principles (ISO 12100-2:2003).* **A1**

ISO 10 821, *Industrial sewing machines - Safety requirements for sewing machines, units and systems.*

## 3 Definitions

For the purposes of this standard the following definitions apply.

### 3.1

#### **filling and dosing machines**

packaging machines which measure out a product from bulk by some predetermined value, e.g. volume, level in a container, mass or count. The terms listed below describe the method of measuring out or dosing the product. The filling machine may comprise one or a number of dosing devices which may be arranged with or without a mechanism to control containers or packages as they are filled

#### **3.1.1 Volumetric filling machines**

##### **3.1.1.1**

##### **volumetric cup filling machine**

filling machine which measures out a product, usually free-flowing solids or powder, in a cup of predetermined volume

##### **3.1.1.2**

##### **volumetric piston filling machine**

filling machine which measures out a product, usually a liquid, paste or gas, using a reciprocating piston of predetermined volume