

Kummi- ja plastitöötlusmasinad. Kilede või lehtede kerimise masinad. Ohutusnõuded

Plastics and rubber machines - Winding machines for film or sheet - Safety requirements

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13418:2013 sisaldab Euroopa standardi EN 13418:2013 ingliskeelset teksti.	This Estonian standard EVS-EN 13418:2013 consists of the English text of the European standard EN 13418:2013.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

Plastics and rubber machines - Winding machines for film or sheet - Safety requirements

Machines pour les matières plastiques et le caoutchouc -
Bobineuses pour films ou feuilles - Prescriptions de
sécurité

Kunststoff- und Gummimaschinen - Wickelmaschinen für
flache Bahnen - Sicherheitsanforderungen

This European Standard was approved by CEN on 11 April 2013.

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Contents

Page

Foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	6
3 Terms and definitions	8
4 List of significant hazards	13
5 Safety requirements and/or protective measures	15
5.1 General.....	15
5.2 General safety requirements and/or protective measures	15
5.2.1 Protection of danger points/areas	15
5.2.2 Safety distances to prevent danger points/areas being reached	16
5.2.3 Basic safeguard requirements	16
5.2.4 Drive and power transmission systems	16
5.2.5 Cutting devices	16
5.2.6 Area guarding.....	17
5.2.7 Electrical equipment.....	17
5.2.8 Control systems - Safe design measures	17
5.2.9 Safety-related parts of the control system.....	17
5.2.10 Precautions in view of emergency situations.....	18
5.2.11 Unexpected start-up	18
5.2.12 Pneumatic systems and their components	18
5.2.13 Hydraulic systems and their components	18
5.2.14 Electrostatic discharge	18
5.2.15 Ergonomics	19
5.2.16 Noise	19
5.3 Specific safety requirements and/or protective measures in normal operating mode	20
5.4 Start-up procedure and manual intervention.....	39
5.4.1 Start-up procedure.....	39
5.4.2 Manual intervention.....	40
6 Verification of the safety requirements and/or protective measures	42
7 Information for use	51
7.1 Minimum marking on the machine.....	51
7.2 Instruction manual.....	51
Annex A (normative) Noise test code	53
A.1 Introduction	53
A.2 Determination of the A-weighted emission sound pressure level at the workstation	53
A.2.1 Basic standards	53
A.2.2 Measurement uncertainty	54
A.3 Determination of the A-weighted sound power level.....	54
A.3.1 Basic standards	54
A.3.2 Measurement uncertainty	54
A.4 Mounting and operating conditions.....	54
A.4.1 General.....	54
A.4.2 Mounting conditions.....	55
A.4.3 Operating conditions.....	55
A.5 Information to be recorded and reported	55
A.6 Declaration and verification of noise emission values.....	56

Annex B (informative) Example of area guarding using a combination of distance guarding in conjunction with sensitive protective equipment (SPE)	57
Annex C (informative) Example of a safety concept and procedures for a centre turret winder	59
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC	63
Bibliography.....	64

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Foreword

This document (EN 13418:2013) has been prepared by Technical Committee CEN/TC 145 "Plastics and rubber machines", 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 November 2013, and conflicting national standards shall be withdrawn at the latest by November 2013.

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 13418:2004+A1:2008.

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.

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

List of significant technical changes since the last edition:

- partially modified requirements and/or protective measures for individual functional groups by taking into account the technological changes in the plastics and rubber industry and the development of the safety technology;
- modified requirements for the safety related parts of the machine control system by taking into account the performance levels as specified in EN ISO 13849-1;
- complete revision of the clause on start-up procedure and manual intervention;
- addition of a noise test code in form of a normative annex;
- modified informative annexes showing examples of safety concepts used at winding machines.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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

This document is a type C standard as stated in EN ISO 12100:2010.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this document.

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards for machines that have been designed and built according to the provisions of this type C standard.

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1 Scope

This European Standard deals with all significant hazards, hazardous situations and events relevant to the design and construction of winding machines used for the winding and/or unwinding and/or rewinding and/or slitting of film or sheet manufactured from rubber, plastic and composite materials, when the machines are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

A machine used for winding or rewinding (winder or rewinder) begins at the intake of the film or sheet into the winding machine and ends at the discharge position of the reel(s).

A machine used for unwinding (unwind) begins at the take-up position of the reel(s) and ends at the film or sheet take-off point.

A machine used for unwinding, slitting and re-winding (slitter rewinder) begins at the take-up position of the reel(s) and ends at the discharge positions of the reel(s) and covers one or more integrated slitting/cutting units.

In some machines the winding, unwinding, rewinding and slitting functions may be combined.

Hazards due to electro-magnetic radiation, e.g. from the use of thickness monitoring devices, are not covered by this European Standard.

Toxic or chemical hazards and hazards due to dusts, fumes or gases, which could occur from the materials being wound, unwound, slit or rewound are not covered by this European Standard.

NOTE Directive 94/9/EC concerning equipment and protective systems intended for use in potentially explosive atmospheres can be applicable to the type of machine or equipment covered by this European Standard. The present standard is not intended to provide means of complying with the essential health and safety requirements of Directive 94/9/EC.

This European Standard is not applicable to winding machines which are manufactured before the date of its publication.

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 953:1997+A1:2009, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

EN 1037:1995+A1:2008, *Safety of machinery — Prevention of unexpected start-up*

EN 1088:1995+A2:2008, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 1760-1:1997+A1:2009, *Safety of machinery — Pressure sensitive protective devices — Part 1: General principles for the design and testing of pressure sensitive mats and pressure sensitive floors*

EN 1760-3:2004+A1:2009, *Safety of machinery — Pressure sensitive protective devices — Part 3: General principles for the design and testing of pressure sensitive bumpers, plates, wires and similar devices*

EN 60204-1:2006,¹⁾ *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

EN 60529:1991, *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN 61496-1:2004,²⁾ *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004, modified)*

CLC/TS 61496-3:2008, *Safety of machinery — Electro-sensitive protective equipment — Part 3: Particular requirements for Active Opto-electronic Protective Devices responsive to Diffusive Reflection (AOPDDR) (IEC 61496-3:2008)*

EN ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane (ISO 3744:2010)*

EN ISO 3746:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Survey method using an enveloping measurement surface over a reflecting plane (ISO 3746:2010)*

EN ISO 3747:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering/survey methods for use in situ in a reverberant environment (ISO 3747:2010)*

EN ISO 4413:2010, *Hydraulic fluid power — General rules and safety requirements for systems and their components (ISO 4413:2010)*

EN ISO 4414:2010, *Pneumatic fluid power — General rules and safety requirements for systems and their components (ISO 4414:2010)*

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 9614-2:1996, *Acoustics — Determination of sound power levels of noise sources using sound intensity — Part 2: Measurement by scanning (ISO 9614-2:1996)*

EN ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections (ISO 11201:2010)*

EN ISO 11202:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying approximate environmental corrections (ISO 11202:2010)*

EN ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental corrections (ISO 11204:2010)*

EN ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*

1) EN 60204-1:2006 is impacted by the stand-alone amendment EN 60204-1:2006/A1:2009, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements*.

2) EN 61496-1:2004 is impacted by the stand-alone amendment EN 61496-1:2004/A1:2008, *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004/A1:2007 + corrigendum Jul. 2008)*.

EN ISO 13849-1:2008,³⁾ *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*

EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

EN ISO 13855:2010, *Safety of machinery — Positioning of safeguards with respect to the approach speeds of parts of the human body (ISO 13855:2010)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1 winding machine
machine to wind up film or sheet material, and/or to unwind and/or rewind it or a combination including a slitting or splitting function

Note 1 to entry: The various kinds of this machine are distinguished by their drive. Distinction is made between centre winder, surface winder and combinations of both.

3.1.1 centre winder
winding machine with central drive to the winding core

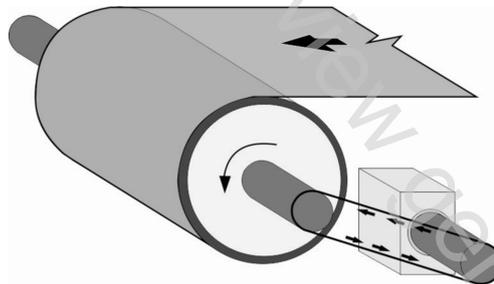


Figure 1 — Centre winder

3.1.2 surface winder
winding machine whose reel drive relies on friction at the driven reel surface

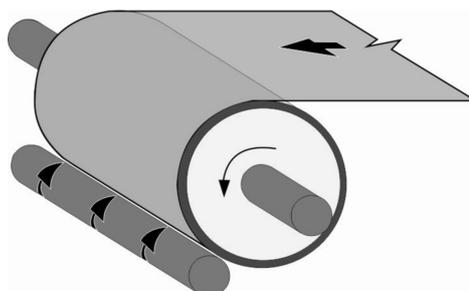


Figure 2 — Surface winder

3) EN ISO 13849-1:2008 is impacted by the corrigendum EN ISO 13849-1:2008/AC:2009.