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**Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 27: Roll handling systems**

## EESTI STANDARDI EESSÕNA

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English Version

**Safety of machinery - Safety requirements for the design and  
construction of paper making and finishing machines - Part 27:  
Roll handling systems**

Sécurité de machines - Exigences techniques de sécurité  
pour la conception et la construction de machines de  
fabrication et de finition du papier - Partie 27: Installations  
pour manutention de bobines

Sicherheit von Maschinen - Sicherheitstechnische  
Anforderungen an Konstruktion und Bau von Maschinen  
der Papierherstellung und Ausrüstung - Teil 27:  
Rollentransportsysteme

This European Standard was approved by CEN on 13 July 2012.

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## Foreword

This document (EN 1034-27:2012) has been prepared by Technical Committee CEN/TC 198 "Printing and Paper machinery - Safety", the secretariat of which is held by DIN.

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of an identical text or by endorsement, at the latest by February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.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 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 Directive(s), see informative Annex ZA, which is an integral part of this document.

EN 1034, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines* consists of the following parts:

- *Part 1: Common requirements*
- *Part 2: Barking drums*
- *Part 3: Rereelers and winders*
- *Part 4: Pulpers and their loading facilities*
- *Part 5: Sheeters*
- *Part 6: Calender*
- *Part 7: Chests*
- *Part 8: Refining plants*
- *Part 13: Machines for de-wiring bales and units*
- *Part 14: Reel splitter*
- *Part 16: Paper and board making machines*
- *Part 17: Tissue making machines*
- *Part 21: Coating machines*
- *Part 22: Wood grinders*
- *Part 26: Roll packaging machines*
- *Part 27: Roll handling systems* (the present document)

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## 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. For machines that have been designed and built according to the provisions of this C standard, the following stipulation applies: where provisions of this type C standard are different from those which are stated in type A or B standards, or from provisions made in EN 1034-1:2000+A1:2010, the provisions of this type C standard take precedence over the provisions of the other standards.

## 1 Scope

This European Standard applies to roll handling systems for use in paper finishing and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazardous events relevant to roll handling systems, when they are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).

This European Standard does not apply to:

- machine reel handling systems;
- stacker trucks, industrial trucks and driverless industrial trucks;
- separate storage systems with cranes and high bay storage systems;
- portable devices for moving rolls.

This European Standard is not applicable to roll handling systems which are manufactured before the date of publication of this document by CEN.

## 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 349:1993+A1:2008, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

EN 614-1:2006+A1:2009, *Safety of machinery — Ergonomic design principles — Part 1: Terminology and general principles*

EN 614-2:2000+A1:2008, *Safety of machinery — Ergonomic design principles — Part 2: Interaction between the design of machinery and work tasks*

EN 619:2002+A1:2010, *Continuous handling equipment and systems — Safety and EMC requirements for equipment for mechanical handling of unit loads*

EN 894-1:1997+A1:2008, *Safety of machinery — Ergonomic requirements for the design of displays and control actuators — Part 1: General principles for human interactions with displays and control actuators*

EN 894-2:1997+A1:2008, *Safety of machinery — Ergonomic requirements for the design of displays and control actuators — Part 2: Displays*

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

EN 1034-1:2000+A1:2010, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines — Part 1: Common requirements*

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 1525:1997, *Safety of industrial trucks — Driverless trucks and their systems*



- 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 1760-2:2001+A1:2009, *Safety of machinery — Pressure sensitive protective devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars*
- 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 1837:1999+A1:2009, *Safety of machinery — Integral lighting of machines*
- EN 13023:2003+A1:2010, *Noise measurement methods for printing, paper converting, paper making machines and auxiliary equipment — Accuracy grades 2 and 3*
- EN 13478:2001+A1:2008, *Safety of machinery — Fire prevention and protection*
- EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*
- EN 61000-6-2:2005, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments (IEC 61000-6-2:2005)*
- EN 61496-1:2004, *Safety of machinery — Electrosensitive protective equipment — Part 1: General requirements and tests (IEC 61496-1:2004, mod)*
- EN 62061:2005, *Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061:2005)*
- 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 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction (ISO 12100:2010)*
- EN ISO 13732-1:2008, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)*
- EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*
- EN ISO 13849-2:2008, *Safety of machinery — Safety-related parts of control systems — Part 2: Validation (ISO 13849-2:2003)*
- 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)*
- EN ISO 14122-2:2001, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways (ISO 14122-2:2001)*
- EN ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*