Irish Standard
I.S. EN 1034-3:2011

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 3: Rereelers and winders

I.S. EN 1034-3:2011

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English Version

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 3: Rereelers and winders

Sécurité de machines - Exigences techniques de sécurité pour la conception et la construction de machines de fabrication et de finition du papier - Partie 3 : Visiteuses et bobineuses

Sicherheit von Maschinen - Sicherheitsanforderungen an Konstruktion und Bau von Maschinen der Papierherstellung und Ausrüstung - Teil 3: Umroller und Rollenschneider

This European Standard was approved by CEN on 29 October 2011.

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Foreword

This document (EN 1034-3:2011) 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of an identical text or by endorsement, at the latest by June 2012, and conflicting national standards shall be withdrawn at the latest by June 2012.

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 1034-3:1999+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 Directive(s) 2006/42/EC, see informative Annex ZA, which is an integral part of this document.

In comparison to EN1034-3:2000+A1:2010, the following amendments have been made:

a) the content of the standard was modified to reflect the present state of the art;

b) the normative references were updated;

c) the requirements for the safety-related parts of control systems were updated. For an increased number of defined safety functions, requirements were specified on the basis of the standards EN ISO 1398-1 and EN 62061;

d) the requirements of the Machinery Directive 2006/42/EC regarding the captivity of the fixing systems of guards have been included;

e) the document was supplemented by requirements relating to the electric drive system, to threading devices, unwinds and winds with automatic set changing;

f) new requirements were added concerning integrated embossing calendars, machine pulpers and shredders for trimmed material;

g) illustrations of rereelers and winders were added in Annex A.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland 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. 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 rereelers and winders and applies together with EN 1034-1:2000+A1:2010. It deals with all significant hazards, hazardous situations and hazard events relevant to rereelers and winders, when used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

This European Standard does not apply to machines used in paper converting.

This European Standard is not applicable to rereelers and winders which are manufactured before the date of publication as an EN.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 349, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*

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 1034-4:2005+A1:2009, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines — Part 4: Pulpers and their loading facilities*

EN 1034-6, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines — Part 6: Calender*

EN 1037, *Safety of machinery — Prevention of unexpected start-up*

EN 1088, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

EN 1760-1, *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, *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 1837, *Safety of machinery — Integral lighting of machines*

EN 13023, *Noise measurement methods for printing, paper converting, paper making machines and auxiliary equipment — Accuracy grades 2 and 3*

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

EN 60204-11, *Safety of machinery — Electrical equipment of machines — Part 11: Requirements for HV equipment for voltages above 1 000 V a.c. or 1 500 V d.c. and not exceeding 36 kV (IEC 60204-11:2000)*

EN 60529:1999, *Degrees of protection provided by enclosures (IP code)*

EN 61000-6-2, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standards — Immunity for industrial environments (IEC 61000-6-2:1999)*

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

EN 62061:2005, *Safety of machinery — Functional safety of safety-related electrical, electronic and programmable electronic control systems (IEC 62061:2005)*

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

EN ISO 4414, *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 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, *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, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails (ISO 14122-3:2001)*

EN ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO 14122-4:2004)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 1034-1:2000+A1:2010 and EN ISO 12100:2010 and the following apply.

3.1
rereeler
machine which prepare the paper web for subsequent processing, for example by changing the winding hardness, removing broken webs or turning over of the web, and the parts of which are unwind, threading device, paper guide rolls, spreader roll, slitter section, windup section, web cutting device, drives and control system

NOTE Figure A.1 in Annex A illustrates the principle of a rereeler.

3.2
winder
machine for cutting paper web in the length direction and for winding the separate web, which can either have a reel spool or are shaftless with a core tube, the parts of which are unwind, threading device, paper

guide rolls, spreader roll, slitter section, web cutting device, windup section, drives and control system. Depending on the type of design, winders are classified into two-drum, single-drum and centre-driven winders

NOTE Figures A.2 to A.10 in Annex A illustrate the principle of some winders.

3.3
tissue winder
machine which combines, winds and possibly slits two or more tissue webs, the parts of which are unwind(s), threading device, paper guide rolls, spreader roll, embossing calender, slitter section, web cutting device, windup section, drives and control system

NOTE Figure A.11 in Annex A illustrates the principle of a tissue winder.

3.4
unwind
machine section for unwinding the paper web from the machine reel

3.5
shaftless unwind
unwind unit unwinding the machine reel from a core on both side of which chucking cones are inserted in order to secure the machine reel

3.6
machine reel
paper web, which is wounded on a reel spool, a core or a winding shaft e.g. in a paper-, board- or tissue-making machine, a coating machine, a calendar or a rereeler

3.7
slitter section
section of the machine where the paper web will be cut in the length direction

3.8
windup section
section of the machine for windup the paper web(s) onto cores, a winding shaft or a reel spool; parts of the windup section are supporting drum, supporting belt, supporting double drums or centre drum, rider roll(s), core feeding device, glue application device, paper roll lowering device(s), paper roll ejection device, rolling-out-area

3.9
shaftless windup
windup where the paper web is wound onto cores which are hold in place by chucking cones on both sides of the core(s)

3.10
chain-type threading system
threading system using synchronously revolving chains on both tending and drive side. For threading, a rod equalling in length the width of the machine is connected to the chains with the machine in standstill. The web end is then fixed to the rod and the rod pulls the web through the machine

3.11
paper rolls
rolls, made in the wind up section of a winder, by winding up the paper webs onto cores or onto a winding shaft or by winding up the paper web in the wind up section of a rereeler onto a reel spool

3.12
reel spool
drum with shaft and clutch, for wind up and unwind the paper web