

Masinate ohutus. Ohutusnõuded paberivalmistamis- ja viimistlusmasinate kavandamisele ja valmistamisele.
Osa 14: Rullimismasinad

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 14: Reel splitter

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1034-14:2005+A1:2010 sisaldab Euroopa standardi EN 1034-14:2005+A1:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 31.01.2010 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 02.12.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 1034-14:2005+A1:2010 consists of the English text of the European standard EN 1034-14:2005+A1:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 31.01.2010 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 02.12.2009.

The standard is available from Estonian standardisation organisation.

ICS 85.100

Standardite reprodutseerimis- ja levitamiseõigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonilisse süsteemi või edastamine ükskõik millises vormis või millisel teel on keelatud ilma Eesti Standardikeskuse poolt antud kirjaliku loata.

Kui Teil on küsimusi standardite autorikaitse kohta, palun võtke ühendust Eesti Standardikeskusega:
Aru 10 Tallinn 10317 Eesti; www.evs.ee; Telefon: 605 5050; E-post: info@evs.ee

Right to reproduce and distribute Estonian Standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without permission in writing from Estonian Centre for Standardisation.

If you have any questions about standards copyright, please contact Estonian Centre for Standardisation:
Aru str 10 Tallinn 10317 Estonia; www.evs.ee; Phone: +372 605 5050; E-mail: info@evs.ee

English Version

**Safety of machinery - Safety requirements for the design and
construction of paper making and finishing machines - Part 14:
Reel splitter**

Sécurité des machines - Prescriptions de sécurité pour la
conception et la construction de machines de fabrication et
de finition du papier - Partie 14: Cisailles à bobine

Sicherheit von Maschinen - Sicherheitstechnische
Anforderungen an Konstruktion und Bau von Maschinen
der Papierherstellung und Ausrüstung - Teil 14:
Rollenspaltmaschinen

This European Standard was approved by CEN on 5 October 2005 and includes Amendment 1 approved by CEN on 17 November 2009.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	4
2 Normative references	4
3 Terms and definitions	6
4 List of significant hazards	7
5 Safety requirements and/or measures	8
5.1 General.....	8
5.2 Loading	9
5.3 Danger zone of the splitting/cutting device including access to the conveyor belts	9
5.4 Reel splitters for pulpers	11
5.5 Start-up warning device	11
5.6 Emergency stop devices.....	11
5.7 Equipment for make-ready and maintenance.....	11
5.8 Safety measures for cleaning operations	12
5.9 Workplaces, access stairs, catwalks, passageways.....	12
5.10 Noise	12
5.11 Isolation and energy dissipation, prevention of unexpected start-up	12
5.12 Ergonomic aspects.....	12
5.13 Control systems and actuators	12
5.14 Integrated lighting.....	13
5.15 Electrical equipment.....	13
5.16 Hydraulic equipment	13
5.17 Pneumatic equipment	13
6 Verification of safety requirements and/or measures.....	13
7 Information for use	13
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 93/87/EC	15
Annex ZB (informative) ^{A)} Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC ^{A1}	16

Figures

Figure 1 — Example of a reel splitter with conveyor belts and pivoting platform.....	6
--	---

Tables

Table 1 — List of significant hazards	8
Table 2 — Methods used to verify safety requirements and/or measures	13

Foreword

This document (EN 1034-14:2005+A1:2009) has been prepared by Technical Committee CEN/TC 198 "Printing and paper machinery - Safety", the secretariat of which is held by DIN.

This document shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.

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 includes Amendment 1, approved by CEN on 17 November 2009.

This document supersedes EN 1034-14:2005.

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

A1 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 Annexes ZA and ZB, which are integral parts of this document. **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

This European Standard is a type C standard as stated in EN ISO 12100-1.

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

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

1 Scope

This European Standard applies to reel splitters intended for use in paper making and shall be used together with ^[A1]EN 1034-1:2000+A1:2010 ^[A1]. It deals with all significant hazards, hazardous situations and hazardous events relevant to reel splitters when used as intended and under the conditions reasonably foreseen by the manufacturer as incorrect application (see clause 4).

This European Standard applies only to reel splitters with a movable knife and of the following designs:

- machines with a vertically moving knife pressed downwards from the top onto the reel, generally right to the core so that the layers of wound paper are separated one after the other and fall off;
- machines with a driven and movable circular knife that cuts the wound layers of the horizontal reel successively, beginning from the top down to the core, with the cut layers of wound paper falling off one after the other.

This European Standard also applies to the integrated conveyor belts and the integrated pivoting platform.

This European Standard also covers the guard rails at the interface of the reel splitter and a pulper that is charged with an integrated conveyor belt of the reel splitter.

NOTE Pulpers are dealt with in EN 1034-4.

This European Standard is not applicable to reel splitters which are manufactured before the date of publication of this EN.

2 Normative references

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

EN 294:1992, *Safety of machinery — Safety distances to prevent danger zones being reached by the upper limbs*.

EN 349:1993, *Safety of machinery — Minimum gaps to avoid crushing of parts of the human body*.

EN 418:1992, *Safety of machinery — Emergency stop equipment — Functional aspects — Principles for design*.

EN 574:1996, *Safety of machinery — Two-hand controls, functional aspects, principles for design.*

EN 619:2002, *Continuous conveyors and systems — Safety and EMC requirements for mechanical conveying systems for packaged goods.*

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

EN 954-1:1997, *Safety of machinery — Safety related parts of control systems — Part 1: General principles for design.*

EN 982:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Hydraulics.*

EN 983:1996, *Safety of machinery — Safety requirements for fluid power systems and their components — Pneumatics.*

EN 999:1998, *Safety of machinery — The positioning of protective equipment in respect of approach speeds of parts for the human body.*

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, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines — Part 4: Pulpers and their loading facilities.*

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

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

EN 1760-2:2001, *Safety of machinery — Pressure-sensitive safety devices — Part 2: General principles for the design and testing of pressure-sensitive edges and pressure-sensitive bars.*

EN 1837:1999, *Safety of machinery — Intergal lighting of machines.*

EN 13023:2003, *Noise measurement methods for printing, paper converting, paper making machines and auxiliary equipment — Accuracy categories 2 and 3.*

EN 60204-1:1997, *Safety of machinery — Electrical equipment — Part 1: General requirements (IEC 60204-1:1997).*

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

EN 61000-6-2:2001, *Electromagnetic compatibility (EMC) — Part 6-2: Generic standard — Immunity — Part 2: Industrial environment (IEC 61000-6-2:1999, modified).*

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

prEN 61496-2:1997, *Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs) (IEC 61496-2:1997, modified).*

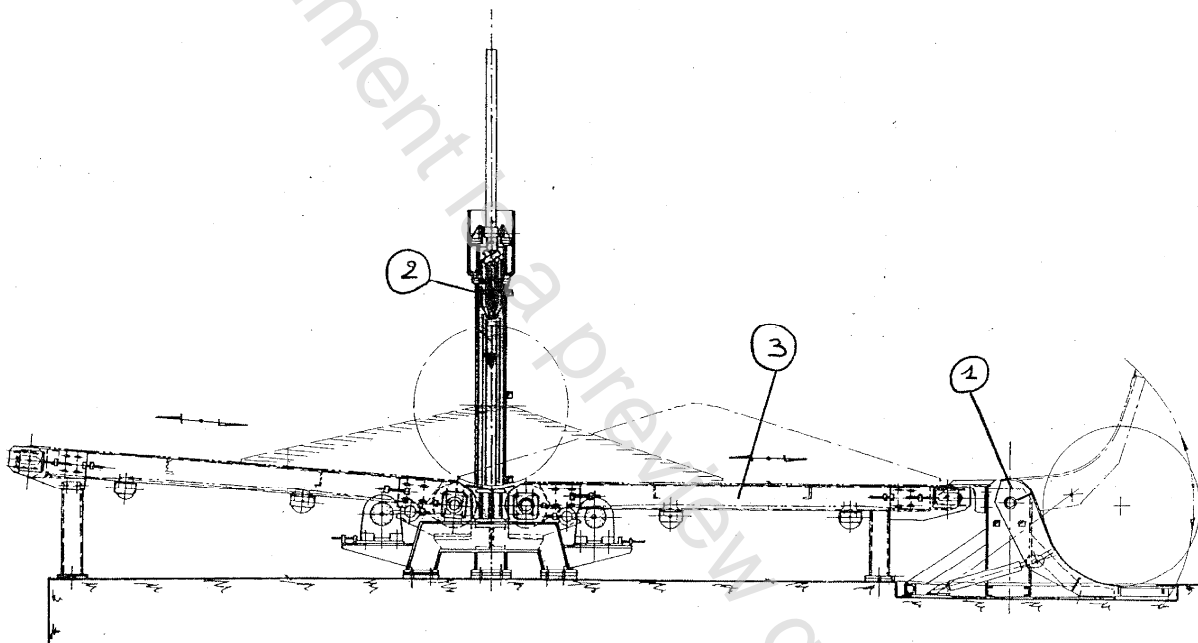
EN ISO12100-1:2003, *Safety of machinery — Basic concepts — General principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003).*

EN ISO 12100-2:2003, *Safety of machinery — Basic concepts — General principles for design - Part 2: Technical principles and specifications (ISO 12100-2:2003).*

3 Terms and definitions

For the purpose of this European Standard, the definitions given in **EN 1034-1:2000+A1:2010**, EN ISO 12100-1:2003 and the following terms and definitions apply:

3.1
reel splitter
 machine used for splitting waste paper reels or reel cores with a power-driven knife in a plane running through the reel axis. Figure 1 illustrates an example of this



NOTE Safety devices are not shown

Key

- 1 Pivoting platform
- 2 Splitting/cutting device
- 3 Conveyor belt

Figure 1 — Example of a reel splitter with conveyor belts and pivoting platform

3.2
knife bar
 moving bar in the machine frame that secures and guides the knife

3.3
reel bed
 part of the machine on which the reel lies for splitting/cutting