SLOVENSKI STANDARD
SIST EN 1034-2:2006

01-september-2006

Varnost strojev – Varnostne zahteve za načrtovanje in konstrukcijo strojev in opreme za izdelavo papirja – 2. del: Lupilniki skorje

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 2: Barking drums

Sicherheit von Maschinen - Sicherheitstechnische Anforderungen an Konstruktion und Bau von Maschinen der Papierherstellung und Ausrüstung - Teil 2: Entrindungstrommeln

Sécurité des machines - Prescriptions de sécurité pour la conception et la construction de machines de fabrication et de finition du papier - Partie 2: Tambours écorceurs

Ta slovenski standard je istoveten z: **EN 1034-2:2005**

ICS:

13.110	Varnost strojev	Safety of machinery
21.020	Značilnosti in načrtovanje strojev, aparatov, opreme	Characteristics and design of machines, apparatus, equipment
85.100	Oprema za papirno industrijo	Equipment for the paper industry

SIST EN 1034-2:2006 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 1034-2

December 2005

ICS 85.100

English Version

Safety of machinery - Safety requirements for the design and construction of paper making and finishing machines - Part 2: Barking drums

Sécurité des machines - Exigences techniques de sécurité pour la conception et la construction de machines de fabrication et de finition du papier - Partie 2: Tambours écorceurs

Sicherheit von Maschinen - Sicherheitstechnische Anforderungen an Konstruktion und Bau von Maschinen der Papierherstellung und Ausrüstung - Teil 2: Entrindungstrommeln

This European Standard was approved by CEN on 10 November 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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Ref. No. EN 1034-2:2005: E

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Foreword

This document (EN 1034-2:2005) has been prepared by Technical Committee CEN/TC 198 “Printing and paper machinery”, 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 2006, and conflicting national standards shall be withdrawn at the latest by June 2006.

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.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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 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 type C standard, the following stipulation applies: when 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, the provisions of this type C standard take precedence over the provisions of the other standards.

1 Scope

This European Standard applies to barking drums consisting of drum, drive, power transmission elements, supporting wheels and control systems intended for use in debarking plants for paper making and shall be used together with EN 1034-1:2000. It deals with all significant hazards, hazardous situations and hazard events relevant to barking drums, when they are used as intended and under the conditions foreseen by the manufacturer (see clause 4). This standard does not apply to sawing equipment or log and bark conveying systems used in debarking plants.

This European Standard is not applicable to barking drums that have been manufactured before the date of publication of this European Standard by CEN.

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

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

EN 626-1:1994, *Safety of machinery — Reduction of risk to health from hazardous substances emitted by machinery — Part 1: Principles and specifications for machinery manufacturers*

EN 626-2:1996, *Safety of machinery — Reduction of risk to health from hazardous substances emitted by machinery — Part 2: Methodology leading to verification procedures*

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

EN 954-1:1996, *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 1034-1:2000, *Safety of machinery — Safety requirements for the design and construction of paper making and finishing machines — Part 1: Common requirements*

EN 1050:1996, *Safety of machinery — Principles for risk assessment*

EN 1837:1999, Safety of machinery — Integral 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 of machines — 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 standards; immunity for industrial environment (IEC 61000-6-2:1999, modified)*

EN ISO 11957:1996, *Acoustics — Determination of sound insulation performance of cabins — Laboratory and in situ measurements (ISO 11957:1996)*

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 and specifications (ISO 12100-2:2003)*

EN ISO 14122-1:2001, *Safety of machinery — Permanent means of access to machinery — Part 1: Choice of a fixed means of access between two levels (ISO 14122-1:2001)*

EN ISO 14122-2:2001, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and gangways (ISO 14122-2:2001)*

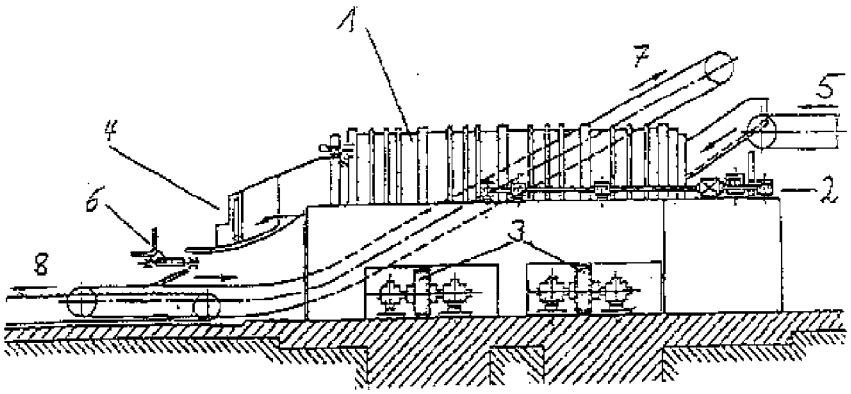
EN ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stair, stepladders and guard-rails (ISO 14122-3:2001)*

EN ISO 14122-4:2004, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders (ISO 14122-4:2001)*

3 Terms and definitions

For the purposes of this document, the definitions of EN 1034-1:2000, EN ISO 12100-1:2003 and the following definition apply:

3.1
barking drum
machine formed of a cylindrical hollow tube (drum) through which logs are fed. The rotation of the drum causes the logs to fall and be pushed against each other and rubbed against the inner wall of the drum causing the bark to break and fall off. Figure 1 illustrates the principle of a barking drum in a debarking plant



Key

1	Drum
2	Drive
3	Supporting wheels
4	Discharge side
5, 6, 7, 8	Log conveyor belts

NOTE: Safety devices are not shown.

Figure 1 — Example of a barking drum

4 List of significant hazards

Table 1 of this clause contains all the significant hazards that, as far as they are dealt with in this standard, are identified by risk assessment in accordance with EN 1050 as significant for this type of machinery and require action to eliminate or reduce the risk.

When carrying out the risk assessment, the machine designer has to check whether the list of hazards in Table 1 is complete and applicable with respect to his particular machine.

Table 1 — List of significant hazards

Hazards	EN 1034-2:2005	EN 1034-1:2000
Mechanical hazards		
Crushing hazard	5.2.2; 5.2.6; 5.2.7	5.1; 5.3
Entanglement hazard	5.2.1; 5.2.2	5.2
Drawing-in or trapping hazard	5.2.3; 5.2.5	5.1; 5.4
Impact hazard	5.2.4; 5.3.2	5.1
Friction or abrasion hazard	5.2.1	5.1
High-pressure fluid ejection hazard	5.13; 5.14	5.24

Table 1 (concluded)

Hazards	EN 1034-2:2005	EN 1034-1:2000
Ejection of parts	5.2.4; 5.2.7	5.2
Slip, trip and fall hazards	5.2.4; 5.3; 5.7.2; 5.7.3	5.5
Electrical hazards caused by, for example:		
Electrical contact (direct or indirect)	5.12	5.23
External influences on electrical equipment	5.12	5.23
Hazards generated by noise, resulting in		
Hearing loss (deafness), other physiological disorders (e.g. loss of balance, loss of awareness)	5.9	5.15
Interferences with speech communication, acoustic signals	5.9	5.15
Hazards generated by materials and substances processed, used or exhausted by machines, for example		
Hazards resulting from contact with or inhalation of dusts	5.15	5.16
Hazards generated by neglecting ergonomic principles in machine design		
Unhealthy postures or excessive efforts	5.3.2; 5.11	5.22
Inadequate consideration of human hand-arm or foot-leg anatomy	5.11	5.22
Inadequate area lighting	5.10	5.18
Hazards caused by failure of energy supply and other functional disorders, for example:		
Failure of energy supply	5.6	5.8
Malfunction of control system	5.2.4; 5.8	5.14
Errors of fitting	5.7	7
Overturn	5.8.2	5.14
Emergency measures	5.5	5.7; 5.18; 5.19
Combination of hazards	5.2.8; 5.4; 5.7	5.6; 5.9

5 Safety requirements and/or measures

5.1 General

Machinery shall comply with the safety requirements and/or measures of this clause. In addition, the machines shall be designed according to the principles of EN ISO 12100-1 for relevant but not significant hazards that are not dealt with by this document.

5.2 Mechanical hazards

5.2.1 The requirements for safety devices as specified in 5.1 and 5.14.4 of EN 1034-1:2000 shall be satisfied. The instruction handbook shall give information about the need to check safety devices.

5.2.2 Safety devices on power transmission elements between the drive and the barking drum shall be designed as specified in 5.2 of EN 1034-1:2000.

5.2.3 Danger points formed on the outside of the barking drum between the barking drum and the supporting wheels, the foundation and the machine frame shall be safeguarded by fixed or interlocking guards with guard locking in accordance with the requirements of EN 953 and 5.14.4 of EN 1034-1:2000. The safety distances according to Table 2 and Table 4 of EN 294:1992 shall also be adhered to.

5.2.4 Dangerous ejection of logs at the loading point and at the discharge chute shall be prevented by containment guards. The material of the containment guard on the delivery side shall have a safety factor of at least 4 with regard to its ability to withstand the impact of an ejected log. It is assumed here that the initial speed of a log when leaving the barking drum is equal to the circumferential speed of the barking drum.