



**SLOVENSKI STANDARD**  
**SIST EN 972:2000/kprA1:2010**  
**01-september-2010**

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**Strojarski stroji - Valjni stroji - Varnostne zahteve**

Tannery machines - Reciprocating roller machines - Safety requirements

Gerberei-Maschinen - Walzenmaschinen - Sicherheitsanforderungen

Machines de tannerie - Machines à cylindres alternatifs - Prescriptions de sécurité

**Ta slovenski standard je istoveten z: EN 972:1998/FprA1**

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**ICS:**

|           |   |  |
|-----------|---|--|
| 59.140.40 | Stroji in oprema za<br>proizvodnjo usnja in krzna | Machines and equipment for<br>leather and fur production |
|-----------|---|--|

**SIST EN 972:2000/kprA1:2010**                      **en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
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**FINAL DRAFT**  
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ICS 59.140.40

English Version

## Tannery machines - Reciprocating roller machines - Safety requirements

Machines de tannerie - Machines à cylindres alternatifs -  
Prescriptions de sécurité

Gerberei-Maschinen - Walzenmaschinen -  
Sicherheitsanforderungen

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 200.

This draft amendment A1, if approved, will modify the European Standard EN 972:1998. If this draft becomes an amendment, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration.

This draft amendment was established by CEN 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.

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

**Management Centre: Avenue Marnix 17, B-1000 Brussels**

**EN 972:1998/FprA1:2010 (E)****Foreword**

This document (EN 972:1998/FprA1:2010) has been prepared by Technical Committee CEN/TC 200 “Tannery machinery - Safety”, the secretariat of which is held by UNI.

This document is currently submitted to the Unique Acceptance Procedure.

The first reason for amending the published standard EN 972:1998 is the revision of the EU-Machinery Directive 98/37/EC into 2006/42/EC, requiring the adaptation of published European Standards cited in the Official Journal of the European Communities under that Directive.

Additionally at this occasion the normative references have been updated, while also some other limited rather editorial improvements and corrections have been made.

## 1 Modification to the Introduction

*Replace the complete text with the following:*

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

The machinery concerned and the extent to which hazards, hazardous situations and hazardous 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."

## 2 Modifications to Clause 1, Scope

*Replace the following text in the 1<sup>st</sup> paragraph "3.11 a) of EN 292-1:1991" with "5.3 a) of EN ISO 12100-1:2003".*

*Replace the 5<sup>th</sup> paragraph "This European Standard applies to the machine manufactured after its date of issue." with the following: "This European Standard is not applicable to reciprocating roller machines which are manufactured before the date of its publication as EN."*

*Add the following paragraph after the 5<sup>th</sup> paragraph "This European Standard provides provisions for the reduction of noise emission at the design stage (see 5.2.4 and Annex A). However, it does not provide a noise test code for the determination by measurement of noise emission values for the machines it covers. Without such a code the manufacturer cannot fulfil his obligation to provide the noise emission values of the machines put on the market."*

*Replace the following text in the 6<sup>th</sup> paragraph "All the significant hazard listed in clause 4 are safeguarded by the requirements included in clause 5 except the following:" with "All the significant hazards (see Clause 4) are dealt with in this European Standard except the following:"*

*Replace the following text in the last paragraph "informative annexes" with "normative annexes".*

## 3 Modifications to Clause 2, Normative references

**Introductory text:** *Replace the first paragraph with the following: "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 292-1:** *Delete this reference and add the following: "EN ISO 12100-1:2003, Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology (ISO 12100-1:2003)".*

**EN 292-2:** *Delete this reference and add the following: "EN ISO 12100-2:2003, Safety of machinery — Basic concepts, general principles for design — Part 2: Technical principles (ISO 12100-2:2003)".*

*Add the reference: "EN 388:2003, Protective gloves against mechanical risks".*

**EN 294:** *Delete this reference and add the following: "EN ISO 13857:2008, Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)".*

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**EN 418:** Delete this reference and add the following: "EN ISO 13850:2008, *Safety of machinery — Emergency stop — Principles for design* (ISO 13850:2006)".

**EN 563:** Delete this reference and add the following: "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)".

Delete reference **EN 811**.

**EN 954-1:** Delete this reference and add the following: "EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design* (ISO 13849-1:2006)".

**prEN 999:** Replace this reference with the following: "EN 999:1998, *Safety of machinery — The positioning of protective equipment in respect of approach speeds of parts of the human body*".

**EN 1037:** Replace this reference with the following: "EN 1037:1995 *Safety of machinery — Prevention of unexpected start-up*".

Delete reference **EN 1070**.

**EN 1760-2:** Replace this reference with the following: "EN 1760-2:2001, *Safety of machinery — Pressure sensitive protective devices — Part 2: General principles for the design and testing of pressure sensitive edges and pressure sensitive bars*".

Delete reference **prEN ISO 3740**.

Delete reference **EN ISO 11200**.

**prEN 50100-1:** Delete this reference and add the following: "EN 61496-1:2004, *Safety of machinery — Electro-sensitive protective equipment — Part 1: General requirements and tests* (IEC 61496-1:2004, modified)".

**prEN 50100-2:** Delete this reference and the following: "CLC/TS 61496-2:2006, *Safety of machinery — Electro-sensitive protective equipment — Particular requirements for equipment using active optoelectronic protective devices (AOPDs)* (IEC 61496-2:2006)".

**EN 60204-1:** Replace this reference with the following: "EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements* (IEC 60204-1:2005, modified)".

**EN 60529:** Replace this item with the following: "EN 60529:1991, *Degrees of protection provided by enclosures (IP code)* (IEC 60529:1989)".

**EN 61310-1:** Add the following reference: "EN 61310-1:2008, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals* (IEC 61310-1:2007)".

Delete all full stops at the end of reference titles.

## **4 Modifications to Clause 3, Definitions**

Replace the heading of this clause with the following: "Terms and definitions".

Replace the introductory text with the following: "For the purposes of this document, the terms and definitions given in EN ISO 12100-1:2003 and the following apply."

### **3.2:**

Replace the heading with the following: "Danger zones (as 3.10 of EN ISO 12100-1:2003)".

## 5 Modification to Clause 4, List of significant hazards

*Introductory paragraph: replace the text with the following:*

"This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this European Standard, identified by risk assessment as significant for this type of machinery and which require action to eliminate or reduce the risk.

The significant hazards for moving platen machines are outlined in 4.1 to 4.18.

The danger zones which give rise to mechanical hazards are illustrated in Figures 1 to 13. The figures are informative only."

## 6 Modifications to Clause 5, Safety requirements and/or measures

*Replace the heading with the following: "Safety requirements and/or protective measures".*

*Replace the hanging paragraphs with the following:*

"Machinery shall comply with the safety requirements and/or protective measures of this clause.

In addition, the machine shall be designed according to the principles of EN ISO 12100-2 for relevant but not significant hazards which are not dealt with by this document.

For hazards which are to be reduced by the application of a type B-standard such as EN 13857, EN 953, EN ISO 13850, EN 60204-1 etc., the manufacturer shall carry out a risk assessment to establish the requirements of the B-standards which are to be applied."

### 5.1 Common requirements

*Replace the heading with the following: "Common requirements concerning reciprocating roller machines".*

#### 5.1.1

*Replace the following text in the 1<sup>st</sup> indent "EN 953:1997 and 4.2.2.2 of EN 292-2:1991" with "EN 953 and 5.3.2.2 of EN ISO 12100-2:2003".*

*Replace the following text in the 2<sup>nd</sup> indent "EN 953:1997, EN 1088:1995 and 4.2.2.2 of EN 292-2:1991" with "EN 953, EN 1088 and 5.3.2.3 of EN ISO 12100-2:2003".*

*Replace the following text in the 3<sup>rd</sup> indent "EN 953:1997 and 4.2.2.2 of EN 292-2:1991" with "EN 953 and 5.3.2.2 of EN ISO 12100-2:2003".*

*Replace the text in the 4<sup>th</sup> indent with the following:*

"fixed distance guards which satisfy EN 953, 5.3.2.3 of EN ISO 12100-2:2003 and the distances given in appropriate tables (I, III or IV) of EN ISO 13857."

*After the text "On release of the force no detectable distortion of the guard shall remain.", add a paragraph as follows: "Fixing systems of fixed guards and fixed covers shall remain attached to these parts or to the machine when the parts are removed."*

*Replace the text in the 5<sup>th</sup> paragraph with the following:*

"In case of technical impossibility of adopting the previous solutions, hazardous movements of machinery parts shall be safeguarded by:".

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*Replace the text in the a) and b) indents with the following: "*

- a) movable interlocking guards which satisfy EN 953 and EN 1088 and 5.3.2.3 of EN ISO 12100-2:2003;
- b) trip devices, such as:
  - electro-sensitive protective devices satisfying EN 61496-1, CLC/TS 61496-2 and EN 999 and/or
  - pressure sensitive edges or bars (defined in 3.1 and 3.2 of EN 1760-2:2001) satisfying EN 1760-2."

*Replace the text in the 6<sup>th</sup> paragraph with the following:*

"Unless demanded by 5.3 and 5.4, the related parts of the control system of the trip devices shall present a performance level at least "d" defined in accordance with EN ISO 13849-1."

**5.1.2**

*Replace the following text in the 3<sup>rd</sup> paragraph "EN 418:1992" with "EN ISO 13850" and "EN 60204-1:1992" with "EN 60204-1:2006".*

**5.1.3.2**

*Replace "EN 1037:1995" with "EN 1037".*

**5.1.3.3**

*Replace the text in the 2<sup>nd</sup> indent with the following: "shall present a performance level at least "c" defined in accordance with EN ISO 13849-1."*

**5.2.1**

*Replace "EN 982:1996" with "EN 982" and "EN 983:1996" with "EN 983".*

**5.2.2**

*Replace the heading with the following: "Electrical hazard".*

*Replace "EN 60204-1:1992" in the 1<sup>st</sup> paragraph with "EN 60204-1" and "EN 60529:1991" in the 2<sup>nd</sup> paragraph with "EN 60529".*

**5.2.3**

*Replace the heading with the following: "Slip, trip and fall hazard".*

*Add the following 1<sup>st</sup> paragraph: "Slip, trip and fall hazards relate mostly to dewooling, scudding, unhairing, fleshing and demanuring machines."*

*Replace the following text "7.1.2 j" in the last paragraph with "7.3.2 j)".*

**5.2.5**

*Replace the heading with the following: "Biological hazard".*

*Add the following 1<sup>st</sup> paragraph: "Biological hazards relate mostly to dewooling, scudding, unhairing, fleshing and demanuring machines."*



*Replace the following text "7.1.4 f" with " 7.3.4 f)".*

### 5.3.1

*Replace the last paragraph with the following text:*

"The guarding arrangements shall be interlocked with the opening and closing movements and the related parts of the control system shall be present a performance level at least "d" defined in accordance with EN ISO 13849-1."

### 5.3.2

#### a. Trip device

*Replace the 1<sup>st</sup> paragraph with the following text:*

"A pressure sensitive protective edge or bar complying with EN 1769-2, and with the related parts of control system presenting a performance level at least "d" defined in accordance with EN ISO 13849-1, shall be installed, covering the entire working width of the machine, in order to detect any potential intrusion into the danger zone."

#### b. Double and single pedal operation

*Replace the following text "7.1.4 g" in the penultimate paragraph with "7.3.4 g)".*

### 5.3.3

*Replace the complete text of the 4<sup>th</sup> paragraph with the following:*

"An electro-sensitive protective device of type 2 in accordance with EN 61496-1 and CLC/TS 61496-2 shall apply. The related parts of control system of this device shall present a performance level at least "d" defined in accordance with EN ISO 13849-1."

### 5.3.4

*Replace "EN 563:1994" in the 3<sup>rd</sup> paragraph with "EN ISO 13732-1".*

*Replace "EN 294:1992" in the 3<sup>rd</sup> paragraph with "EN ISO 13857".*

### 5.3.5

*Replace the following text "7.1.1 h, 7.1.2 h and i" in the 4<sup>th</sup> paragraph with "7.3.1 h), 7.3.2 h) and i)".*

### 5.3.6

*Replace "table 2 of EN 294:1992" in the 4<sup>th</sup> paragraph with "EN ISO 13857:2008, Table 2".*

#### 5.4.1.1

*Replace the text in the 3<sup>rd</sup> paragraph with the following:*

"Compliance with the safety distances given in EN ISO 13857 and EN 349 shall be achieved. If this is not possible fixed enclosing guards shall be provided."