

**Masinad ja jaamad lehtklaasi valmistamiseks ja töötlemiseks. Ohutusnõuded. Osa 4: Kallutuslauad**

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 4: Tilting tables

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 13035-4:2003+A1:2010 sisaldab Euroopa standardi EN 13035-4:2003+A1:2009 ingliskeelset teksti.

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Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 16.12.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 13035-4:2003+A1:2010 consists of the English text of the European standard EN 13035-4:2003+A1:2009.

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ICS 81.100

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English Version

**Machines and plants for the manufacture, treatment and  
processing of flat glass - Safety requirements - Part 4: Tilting  
tables**

Machines et installations pour la production, le façonnage  
et la transformation du verre plat - Prescriptions de sécurité  
- Partie 4: Tables basculantes

Maschinen und Anlagen für die Herstellung, Be- und  
Verarbeitung von Flachglas - Sicherheitsanforderungen -  
Teil 4: Kipptische

This European Standard was approved by CEN on 23 May 2003 and includes Amendment 1 approved by CEN on 8 November 2009.

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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.

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## Foreword

This document (EN 13035-4:2003+A1:2009) has been prepared by Technical Committee CEN/TC 151 “Construction equipment and building material machines – 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of an identical text or by endorsement, at the latest by June 2010, and conflicting national standards shall be withdrawn at the latest by June 2010.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 2009-11-08.

This document supersedes EN 13035-4:2003.

The start and finish of text introduced or altered by amendment is indicated in the text by tags  $\boxed{A_1}$   $\boxed{A_1}$ .

$\boxed{A_1}$  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.

Annexes A to E are normative.  $\boxed{A_1}$

This document is one of a series concerning machinery for the treatment and processing of flat glass.

This document includes a Bibliography.

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.

## 0 Introduction

This document is a type-C standard as stated in **A1** EN ISO 12100-1 **A1**.

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

## 1 Scope

**1.1** This standard contains the requirements for safety for the design and installation of tilting tables, where the flat glass is brought from the horizontal almost to the vertical position or vice versa by lying on or – supported at the lower edge – leaning against a supporting surface.

**1.2** **A1** This standard deals with all significant hazards, hazardous situations and events relevant to tilting tables for flat glass, when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance. Noise is not a significant hazard for this type of machines. **A1**

**1.3** This standard is not applicable to tilting tables where all movements are done by human power.

**1.4** This standard is not applicable to additional equipment, e.g. for cutting (see **A1** EN 13035-3 **A1**), loading and unloading (see **A1** EN 13035-5 **A1**), break-out (see **A1** EN 13035-6 **A1**), transporting (see EN 619) of flat glass as used as integral parts of the machinery. If there are specific risks that arise in connection with tilting tables, appropriate measures are specified.

**1.5** This document is not applicable to tilting tables which are manufactured before the date of publication of this document by CEN.

## 2 Normative references

**A1** 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. **A1**

**A1** *deleted text* **A1**

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

**A1** *deleted text* **A1**

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

**A1** *deleted text* **A1**

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

**A1** *deleted text* **A1**

EN 1760-1:1997, *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, *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 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*

CLC/TS 61496-2:2006, *Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs) (IEC 61496-2:2006)*

EN ISO 4871:2009, *Acoustics — Declaration and verification of noise emission values of machinery and equipment (ISO 4871:1996)*

EN ISO 11201, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Engineering method in an essentially free field over a reflecting plane (ISO 11201:1995, including Cor 1:1997)*

EN ISO 11202, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Survey method in situ (ISO 11202:1995)*

EN ISO 11204, *Acoustics — Noise emitted by machinery and equipment — Measurement of emission sound pressure levels at a work station and at other specified positions — Method requiring environmental corrections (ISO 11204:1995, including Cor 1:1997)*

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 (ISO 12100-2:2003)*

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 13850, *Safety of machinery — Emergency stop — Principles for design (ISO 13850:2006)*

EN ISO 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

deleted text

### 3 Terms and definitions – Symbols and abbreviated terms

For the purposes of this European Standard, the terms and definitions given in EN ISO 12100-1:2003 apply. Additional terms and definitions specifically needed for this document are added below:

#### 3.1

##### table

supporting surface for the deposit of sheets of flat glass

#### 3.2

##### supports

mechanical stops that prevent the glass sheet from sliding off during and after the tilting table is raised and that hold the glass sheet at the lower edge