

**Masinaid 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

<p>Käesolev Eesti standard EVS-EN 13035-4:2003 sisaldab Euroopa standardi EN 13035-4:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13035-4:2003 consists of the English text of the European standard EN 13035-4:2003.</p> <p>This document is endorsed on 14.08.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala:</p> <p>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</p>	<p>Scope:</p> <p>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</p>
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ICS 81.100

Võtmesõnad: accident prevention, definition, definitions, design, flat glass, glass, hazards, hyalotechnics, installations, machines, processing, production, safety, safety requirements, tilting tables, treatment

ICS 81.100

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 fabrication, le façonnage
et la transformation du verre plat - Exigences 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.

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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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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Foreword

This document (EN 13035-4:2003) 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 January 2004, and conflicting national standards shall be withdrawn at the latest by January 2004.

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 EC Directive(s).

Annexes A to D are normative.

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

For relationship with EC Directive(s), see informative annex ZA, which is an integral part of this document.

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, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

0 Introduction

This document is a type-C standard as stated in EN 1070.

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 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 foreseeable by the manufacturer (see clause 4). This standard specifies the appropriate technical measures to eliminate or reduce risks which can arise from these significant hazards.

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 prEN 13035-3), loading and unloading (see prEN 13035-5), break-out (see prEN 13035-6), 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

This European Standard incorporates by dated or undated, reference provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 292-1, *Safety of machinery - Basic concepts, general principles for design - Part 1: Basic terminology, methodology.*

EN 292-2:1991, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications.*

EN 292-2:1991/A1:1995, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications.*

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

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

EN 418, *Safety of machinery - Emergency stop equipment, functional aspects - Principles for design.*

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

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

EN 1070:1998, *Safety of machinery - Terminology.*

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 60204-1:1997, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements - (IEC 60204-1:1997 + Corrigendum 1998).*

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

3 Terms and definitions – Symbols and abbreviated terms

For the purposes of this European Standard, the terms and definitions given in EN 1070 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

3.3

tip-over safeguard

device that ensures the lifting of the table only to an angle so that the glass sheet is being leant stable against the table

3.4

throw-off safeguard

equipment or the manner of movement that prevents the glass sheet from being thrown off by the dynamic energy caused by the movement to the vertical

3.5

additional equipment

equipment that can be additionally attached, e.g. cutting bridges, feeders, transport devices (conveyor rolls)

3.6

all automatic (tilting tables)

tilting tables which work within a line where all operations including loading and unloading are controlled by a programme and where access for persons is not necessary during normal production