Masinad ja jaamad lehtklaasi valmistamiseks ja töötlemiseks. Ohutusnõuded. Osa 5: Virnastamismasinad ja seadmed

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 5: Machines and installations for stacking and de-stacking

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13035-5:2006 sisaldab Euroopa standardi EN 13035-5:2006 ingliskeelset teksti. Käesolev dokument on jõustatud 30.08.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13035-5:2006 consists of the English text of the European standard EN 13035-5:2006. This document is endorsed on 30.08.2006 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard applies for machines and installations for stacking and de-stacking that are specifically designed for building-up or taking down upright stacks of flat glass sheet by sheet including unloading and loading of single sheets of flat glass from or onto machines or transport devices (conveyors).	**Scope:** This European Standard applies for machines and installations for stacking and de-stacking that are specifically designed for building-up or taking down upright stacks of flat glass sheet by sheet including unloading and loading of single sheets of flat glass from or onto machines or transport devices (conveyors).

ICS 81.100

Võtmesõnad: accident prevention, definition, design, hyalotechnics, machines

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English Version

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 5: Machines and installations for stacking and de-stacking

Machines et installations pour la production, le façonnage et la transformation du verre plat - Exigences de sécurité - Partie 5 : Machines et installations à empiler et dépiler

Maschinen und Anlagen zur Herstellung, Be- und Verarbeitung von Flachglas - Sicherheitsanforderungen - Teil 5: Maschinen und Einrichtungen zum Stapeln und Abstapeln

This European Standard was approved by CEN on 24 May 2006.

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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Foreword

This document (EN 13035-5:2006) 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 December 2006, and conflicting national standards shall be withdrawn at the latest by December 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.

It is one of a series concerning machinery for the manufacture, treatment and processing of flat glass (see 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, 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 events are covered are indicated in the scope of this European Standard.

When provisions of this type C standard are different from those 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.

Machinery for stacking and de-stacking flat glass is used within the manufacture and further processing of flat glass in connection with a great variety of operations, e.g.:

— at the end of the production line for stacking flat glass with float dimensions;

— for loading cutting lines;

— for unloading and stacking flat glass after cutting and break-out;

— for loading lines for the production of insulating glass.

Therefore, the specific safety measures are laid down in an independent standard to make them available for the use of all kinds of applications. These principles are also suited for application if loading systems are an integral part of other machinery of the EN 13035 series, e.g. tilting tables (see Figure A.5 of Annex A).

When compiling this European Standard, it was assumed that the existing ad-hoc standards for components are applied, e.g. EN 619, prEN 13035-1, EN 13035-4 when conveyors, stillages, tiltable parts are integrated.

1 Scope

1.1 This European Standard applies for machines and installations for stacking and de-stacking that are specifically designed for building-up or taking down upright stacks of flat glass sheet by sheet including unloading and loading of single sheets of flat glass from or onto machines or transport devices (conveyors).

NOTE For sketches with examples of typical constructions, see Annex A (informative), Figures A.1 to A.9.

1.2 This European Standard deals with the significant hazards, hazardous situations and events relevant to machines and installations for stacking and de-stacking flat glass when they are used as intended and under the conditions foreseeable by the manufacturer (see Clause 4). Those hazards which are dealt with in the ad-hoc standard EN 619 for conveyors are excepted. This European Standard specifies the appropriate technical measures to eliminate or reduce risks which can arise from these significant hazards during commissioning, the operation and maintenance.

1.3 This European Standard is not applicable to the significant hazards of conveyors and other machines for the manufacture, treatment and processing of flat glass, e.g. tilting tables, equipment for storage of flat glass, such as stillages. If there are specific hazards which arise by the co-operation of this machinery and equipment with machines and installations for stacking and de-stacking, appropriate measures are specified.

1.4 This European Standard is not applicable to building up or taking down stacks by means of cranes that are temporarily equipped via hook with load-lifting attachments with suction cups to lift flat glass.

1.5 When compiling this European Standard, it was assumed that lifting movements are only used as part of full automatic machines and that the related hazards are not significant.

1.6 This European Standard is not applicable to machines and installations for stacking and de-stacking which are 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 distance 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 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 999:1998, *Safety of machinery — The positioning of protective equipment in respect of approach speeds of parts of the human body*

EN 1037:1995, *Safety of machinery — Prevention of unexpected start-up*

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

EN 1525:1997, *Safety of industrial trucks — Driverless trucks and their systems*

EN 13367:2005, *Ceramic machines — Safety — Transfer platforms and cars*

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

EN 61310-1:1995, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, auditory and tactile signals (IEC 61310-1:1995)*

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

prEN 61496-2:2005, *Safety of machinery — Electro-sensitive protective equipment — Part 2: Particular requirements for equipment using active opto-electronic protective devices (AOPDs) (IEC 61496-2:2005)*

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)*