EESTI STANDARD EVS-EN 13035-6:2006

Masinad ja jaamad lehtklaasi valmistamiseks ja töötlemiseks. Ohutusnõuded. Osa 6: Praagi väljalõikamismasinad

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 6: Machines for break-out

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13035-6:2006 sisaldab Euroopa standardi EN 13035-6:2006 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 13035-6:2006 consists of the English text of the European standard EN 13035-6:2006. 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 for break-out of flat glass including the following steps: transport and positioning, break-out, transport of the cut sizes to the unloading position, leading away of waste flat glass.	**Scope:** This European Standard applies for machines for break-out of flat glass including the following steps: transport and positioning, break-out, transport of the cut sizes to the unloading position, leading away of waste flat glass.

ICS 81.100

Võtmesõnad: accident prevention, flat glass, hyalotechnics, machines, plant

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13035-6

June 2006

ICS 81.100

English Version

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 6: Machines for break-out

Machines et installations pour la production, le façonnage et la transformation du verre plat - Exigences de sécurité - Partie 6 : Machines à rompre

Maschinen und Anlagen für die Herstellung, Be- und Verarbeitung von Flachglas - Sicherheitsanforderungen - Teil 6: Brechmaschinen

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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Ref. No. EN 13035-6:2006: E

Contents

Page

Tables

Foreword

This document (EN 13035-6:2006) 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 Directives, 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.

When compiling this European Standard it was assumed that:

— machines for break-out used in shops for the treatment of flat glass are compact and can be overlooked from the working place of the operator; but sometimes extended plants with remote parts are usual preferably in factories for the production of flat glass without the possibility of a survey from any position;

— transport, break-out of flat glass on the machinery generate no hazards by noise, but feeding waste glass into bins manually may make dangerous noise, when the glass is not placed with care but thrown off. Dangerous noise may also be generated by crushing waste glass or feeding waste glass into containers by conveyors near to the operator's working place so that wearing of ear plugs may be necessary;

— negotiations occur between the manufacturer and the user about measures to avoid dangerous noise at the operator’s position by other sources, e.g. by separation and/or insulation of noisy operations, such as charging of waste glass into containers or crushing of waste glass;

— gas burners for naked flames used to induce stress to glass present no other significant hazards than burns by the flame, because burners have very low capacity, are used in big halls and are always in the operator's view so that automatic surveillance of the flame or specific ducts for exhaust are not usual and necessary;

— as far as applicable obstructions by the structure of guards during servicing work such as fault clearing are prevented by a minimum distance of 0,5 m between the guard and the machinery;

— the existing ad-hoc standards for components are applied, e.g. EN 619, EN 13035-3, EN 13035-5, when conveyors, cutting operations or unloading equipment are integrated.

1 Scope

1.1 This European Standard applies for machines for break-out of flat glass including the following steps: transport and positioning, break-out, transport of the cut sizes to the unloading position, leading away of waste flat glass.

1.2 This European Standard deals with the significant hazards, hazardous situations and events relevant to machines for the break-out of 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 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. Hazards from noise are not considered to be significant.

1.3 This European Standard is not applicable to the break-out operation (opening the cut) of cutting machines for laminated glass (see EN 13035-7).

1.4 This European Standard is not applicable to the treatment of waste flat glass such as crushing and/or charging of waste flat glass into bins, containers.

1.5 This European Standard does not apply to the significant hazards of conveyors. If there are specific hazards which arise by the co-operation of conveyors with machines for break-out of flat glass, appropriate measures are specified.

1.6 This European Standard is not applicable to machines for break-out of flat glass 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 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)*

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)*

3 Terms and definitions

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

3.1
break-out
method to open a cut (score) by generating strain e.g. by mechanical devices, by local heating with gas burners

3.2
static break-out
process to divide flat glass while the glass rests on a horizontal supporting surface e.g. break-out table

3.3
dynamic break-out
process to divide flat glass while the glass is moving on a horizontal supporting surface

3.4
automatic (mode)
break-out process carrying out of the following procedures without intervention of persons: transport and positioning of the sheet; break-out e.g. by rolls, break-out bar; transport of divided glass to the unloading position (discharge of waste flat glass)

3.5
semi-automatic (mode)
break-out process where some of the operations of the break-out process are controlled by a manual start

3.6
clamp (bar)
device to hold down the glass from above against a supporting surface e.g. table