



**SLOVENSKI STANDARD**  
**SIST EN 13035-7:2007/kprA1:2009**  
**01-junij-2009**

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**Stroji in obrati za proizvodnjo, obdelavo in predelavo ravnega stekla - Varnostne zahteve - 7. del: Stroji za rezanje lepljenega stekla**

Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 7: Cutting machines for laminated glass

Maschinen und Anlagen zur Herstellung, Be- und Verarbeitung von Flachglas - Sicherheitsanforderungen - Teil 7: Schneidmaschinen für Verbundglas

Machines et installations pour la production, le façonnage et la transformation du verre plat - Exigences de sécurité - Partie 7: Machines à couper le verre feuilleté

**Ta slovenski standard je istoveten z: EN 13035-7:2006/prA1**

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**ICS:**

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**SIST EN 13035-7:2007/kprA1:2009      en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**FINAL DRAFT**  
**EN 13035-7:2006**

**prA1**

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ICS 81.100

English Version

**Machines and plants for the manufacture, treatment and  
processing of flat glass - Safety requirements - Part 7: Cutting  
machines for laminated glass**

Machines et installations pour la production, le façonnage  
et la transformation du verre plat - Exigences de sécurité -  
Partie 7: Machines à couper le verre feuilleté

Maschinen und Anlagen zur Herstellung, Be- und  
Verarbeitung von Flachglas - Sicherheitsanforderungen -  
Teil 7: Schneidmaschinen für Verbundglas

This draft amendment is submitted to CEN members for unique acceptance procedure. It has been drawn up by the Technical Committee CEN/TC 151.

This draft amendment A1, if approved, will modify the European Standard EN 13035-7:2006. 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**

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## Foreword

This document (EN 13035-7:2006/prA1:2009) 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 document is currently submitted to the Unique Acceptance Procedure.

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.

**EN 13035-7:2006/prA1:2009 (E)****1 Modification to the Foreword**

*Replace the 4<sup>th</sup> paragraph with:*

“For relationship with EU Directives, see informative Annexes ZA and ZB, which are integral parts of this document.”

**2 Modification to the Scope**

*In 1.2, replace the 1<sup>st</sup> sentence with:*

“This European Standard deals with the significant hazards, hazardous situations and events relevant to cutting machines for laminated glass when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer (see Clause 4).”

*In 1.2, replace the 3<sup>rd</sup> sentence with:*

“This European Standard specifies the appropriate technical measures to eliminate or reduce risks arising from the significant hazards during commissioning, operation and maintenance.”

**3 Modification to Clause 2, Normative references**

*Delete:*

“EN 418:1992, *Safety of machinery — Emergency stop equipment, functional aspects — Principles for design*”

EN 563:1994, *Safety of machinery — Temperatures of touchable surfaces — Ergonomics data to establish temperature limit values for hot surfaces*“

“EN 954-1:1996, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*”

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

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

*Delete:*

“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)*”

Add:

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

EN ISO 11201:1995, *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)*

EN ISO 11202:1995, *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 11204:1995, *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)*”

“EN ISO 13732-1:2006, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces (ISO 13732-1:2006)*”

EN ISO 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2008)*

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

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

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

Add the reference to 5.15 as preventive measures in the last column to 4.1.1 to 4.1.6.

#### **5 Modification to Clause 5, Safety requirements and/or protective measures**

In 5.1, 3<sup>rd</sup> paragraph, replace: “EN 418” with “EN ISO 13850” and “EN 954-1” with “EN ISO 13849-1”.

Replace the existing text in 5.5.2 with:

“Sensitive protective equipment, for example an opto-electronic protective device preventing the start as long as hands/fingers are in the danger zone. The opto-electronic protective devices shall be of type 4 in compliance with EN 61496-1:2004 and CLC/TS 61496-2:2006.

NOTE In general an opto-electronic protective device close to the bar with a detection capability of 14 mm will be acceptable.”

Replace the existing text in 5.7 to 5.12 with:

**5.7** “Crushing of the body between the moving positioning bridge and fixed parts outside the machine or of the machine itself shall be prevented, e.g. by a pressure-sensitive edge at the positioning bridge.

The pressure-sensitive edge shall comply with EN 1760-2:2001 and shall extend over the width of the potential crushing zone. The pressure sensitive edge and the related parts of the control system shall as a minimum

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conform to performance level d in accordance with EN ISO 13849-1:2006, except for the main contactor, which shall as a minimum comply with performance level c in accordance with EN ISO 13849-1:2008.

The design of the protective system shall ensure the stopping of the dangerous movement within the “working travel” as defined in EN 1760-2:2001, 3.16, and the actuating force shall not be greater than 150 N.

**5.8** All electrical equipment shall conform to the requirements of EN 60204-1 in particular with regard to the protection against electrical shock (see EN 60204-1:2006, Clause 6) and taking into account thermal stresses of the insulation in the heating zone. Heating devices shall be constructed so that there cannot be contact with live electrical conductors, e.g. by the use of a quartz tube or the use of electrically insulated resistances.

NOTE Covers to avoid burns, see 5.9, give mechanical protection of the quartz tube.

**5.9** Burns by accidental contact with heating elements shall be avoided, e. g. by a cover. The temperature of the screen (cover) shall not exceed the temperatures of EN ISO 13732-1:2006, 4.2.1.

**5.10** Emergency-stop equipment according to EN ISO 13850 shall be provided and shall function in accordance with EN 60204-1:2006, 9.2.2, category 0 or 1. Control devices (manually operated actuators) shall be installed at the control panel and within the operator's reach at each working place. The emergency-stop equipment shall both stop the movements of the machine and turn off the heating device.

**5.11** A latching-in stop control device in accordance with EN 1037:1995, 6.3.2, shall be provided at the control panel and within the operator's reach at each working place to be able to protect against unexpected start-up by disorder of the control system or by human error. The related parts of the control system shall as a minimum comply with performance level c in accordance with EN ISO 13849-1:2008.

**5.12** Lockable devices for isolation and energy dissipation shall be provided, e. g. a master switch according to EN 60204-1:2006, 5.3, and an isolation valve and means for dissipation of pneumatic pressure according to EN 983:1996, 5.1.6.”

*Add new 5.14 and 5.15: “*

**5.14 Noise****5.14.1** Information on noise emission

Information on noise emission shall be given by the manufacturer in the Instruction Handbook, see 7.3.2.

**5.14.2** Noise-emission measurement, declaration and verification procedures

Measurement, declaration and verification of noise-emission values shall be made according to the noise-test code given in Annex A.

**5.15 Fixed guards**

If fixed guards are used, their fixing systems shall remain attached to the guards or to the machinery when the guards are removed.”

**6 Modification to Clause 6, Verification of the safety requirements and/or protective measures**

*Replace Table 2 with:*



"Table 2 — Individual testing for requirements listed in Clause 5

Safety measures Clause No.	Method of testing (routine test)		
	Visual	Functional	Measuring
5.2.1; 5.5.2 <sup>a</sup> ; 5.7 <sup>a</sup> ; 5.10; 5.11 to 5.13, 5.15	X	X	
5.2.2; 5.2.3; 5.4; 5.6.1; 5.9	X		
5.3; 5.5.1; 5.8	X		X
5.6.2; 5.8 <sup>b</sup>	X	X	X
5.14			X
<sup>a</sup> Declaration of conformity from the producer and others.			
<sup>b</sup> See also EN 60204-1:2006, Clause 18.			

## 7 Modification to 7.3, Accompanying documents (in particular: Instruction Handbook)

*In 7.3.2, replace the 1<sup>st</sup> indent with:*

- "the A-weighted emission sound pressure level at workstations where this exceeds 70 dB. Should this level not exceed 70 dB, this fact shall be indicated. The A-weighted emission sound pressure level at workstations shall be measured in accordance with the noise-test code given in Annex A."

*In 7.3.2, add the following new paragraph after the last indent:*

"Whenever sound-emission values are indicated, the uncertainties surrounding these values shall be specified."

*Add new 7.3.10 and 7.3.11:*

**7.3.10** The operating method to be followed in the event of accident or breakdown; if a blockage is likely to occur, the operating method to be followed so as to enable the equipment to be safely unblocked.

**7.3.11** The specifications of the spare parts to be used, when these affect the health and safety of operators."

## 8 Modification to 7.4, Marking

*Replace the 1<sup>st</sup> sentence with:*

"The machines shall be marked legibly and permanently with at least the following:"

*Replace the 1<sup>st</sup> indent with:*

- "business name and full address of the manufacturer and, where applicable, his authorised representative;"