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Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 9: Washing installations

Maschinen und Anlagen zur Herstellung, Be- und Verarbeitung von Flachglas - Sicherheitsanforderungen - Teil 9: Waschmaschinen

Machines et installations pour la production, le façonnage et la transformation du verre plat - Exigences de sécurité - Partie 9 : Machines à laver le verre

Ta slovenski standard je istoveten z: EN 13035-9:2006/FprA1

ICS:

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 \ ^ | æ ã } [Á á • c á } Equipment for the glass and ceramics industries

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Machines and plants for the manufacture, treatment and processing of flat glass - Safety requirements - Part 9: Washing installations

Machines et installations pour la production, le façonnage et la transformation du verre plat - Exigences de sécurité - Partie 9 : Machines à laver le verre

Maschinen und Anlagen zur Herstellung, Be- und Verarbeitung von Flachglas - Sicherheitsanforderungen - Teil 9: Waschmaschinen

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 13035-9:2006. 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.

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Foreword

This document (EN 13035-9:2006/FprA1:2009) 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 13035-9:2006/FprA1:2009 (E)**1 Modification to the Foreword**

Replace the 4th paragraph with the following one:

“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 1st sentence with the following one:

“This European Standard deals with the significant hazards, hazardous situations and events with the exception of those by interfaces with other machines used in a process line relevant to glass washing installations, 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, add after the 2nd sentence the following sentence:

“Safety requirements and/or protective measures are given in Clause 5. When references are made to B level standards such as EN 953, EN 1037, EN 1088, EN 60204-1, EN ISO 13850 and EN ISO 13857, the manufacturer should carry out an adequate risk assessment for the requirements thereof where choice is necessary.”

3 Modification to Clause 2, Normative references

Delete:

“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 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*”

Update:

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

EN 61310-1:1995 as follows: “EN 61310-1:2008, *Safety of machinery — Indication, marking and actuation — Part 1: Requirements for visual, acoustic and tactile signals (IEC 61310-1:2007)*”

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 3747:2000, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Comparison method for use in situ (ISO 3747:2000)*”

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 13849-1:2008, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design (ISO 13849-1:2006)*”

EN ISO 13850:2008, *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)*

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

Delete the 2nd paragraph.

Replace Table 1 with the following:

"Table 1 — List of significant hazards

| Hazards | Danger zone/dangerous items | Preventive measures: see clause |
|--------------------------------------|---|------------------------------------|
| 4.1 Mechanical hazards | | |
| 4.1.1 Crushing and drawing-in hazard | Reaching of the clamping rollers located at the entrance to scrubbing or washing units by hand | 5.3; 5.13 |
| | Moving parts inside the washing and drying unit | 5.2; 5.12; 5.13 |
| 4.1.2 Crushing and shearing hazard | Vertical washing installation: moving glass on the inlet and outlet conveyor/support with rolls | 5.4; 5.13 |
| | Moving glass inside the scrubbing, washing and drying unit | 5.2; 5.12; 5.13 |
| 4.1.3 Cutting hazard | Moving glass inside the washing and drying unit | 5.2; 5.12; 5.13 |

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| | | |
|---|---|--------------------------------|
| 4.1.4 Entanglement hazard | Rolls of horizontal inlet and/or outlet conveyors | 5.5 |
| 4.2 Electrical hazards | Direct or indirect contact | 5.8; 5.10; 7.2.3; 7.2.4 |
| 4.3 Hazards by noise may result in hearing damage, tinnitus, stress, in accidents due to interference with speech communication and with the perception of acoustic signals | Fan and blowers of drying unit | 5.9; 7.2.1 |
| 4.4 Hazards generated by neglecting ergonomic principles | | |
| 4.4.1 Neglected use of personal protection equipment | Sharp glass | 7.2.2 |
| 4.4.2 Human behaviour | Dangerous movements with neutralised safety measure | 5.11 |
| 4.5 Unexpected start-up | Whole machine or parts of it | 5.10; 5.11; 5.12; 7.2.4; 7.2.5 |
| 4.6 Impossibility of stopping the machine in the best possible conditions | Whole machine or parts of it | 5.10; 5.12; 7.2.4 |
| 4.7 Falling objects | Glass transported on conveyors of vertical washing machines | 5.6; 5.7 |

5 Modifications to Clause 5, Safety requirements and/or protective measures

In 5.1, delete the 3rd paragraph.

Replace the existing text in 5.2 with the following:

5.2 "All moving parts of the scrubbing, washing and drying unit, such as brushes, transported glass, clamping rollers, shall be enclosed by fixed guards and, where access is needed, movable interlocking guards in accordance with EN 953. The interlocking device and the related part of the control system shall present a performance level of at least c in accordance with EN ISO 13849-1:2008."

Replace the existing text in 5.3.1 with the following:

"The access to clamping rollers shall be prevented by a fixed distance guard (tunnel guard) according to EN 953:1997, 3.2.2, and the safety distances specified in EN ISO 13857:2008, Table 4, shall be maintained."

Replace the existing text in 5.3.2 with the following:

5.3.2 "If, due to design or functional requirements, it is not possible to achieve the safety distances indicated in 5.3.1, a sensitive protective device shall be provided, for example a (mechanical) sensitive bar or a single beam opto-electronic protective device (light beam). This device shall stop operation of the continuous handling equipment (conveyor) and the clamping rollers when the hand enters the danger zone.

The sensitive bar shall comply with EN 1760-2:2001 and shall extend over the width of the potential crushing zone. The devices and the related parts of the control system shall present a performance level of at least c in accordance with EN ISO 13849-1:2008.

Opto-electronic protective devices shall be of type 2 in compliance with EN 61496-1:2004 and CLC/TS 61496-2:2006. The single beam device shall protect the machine in its entire width at the entrance of the unit itself."

Replace the existing text in 5.8 with the following:

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).

All electrical control systems shall operate at a maximum of 24 V and in accordance with EN 60204-1:2006, 6.4. Protection shall be not less than IP65 according to EN 60529:1991 where there is a significant risk of exposure to water (see 7.2.3)."

Replace the existing headline and text in 5.9.2 with the following:

5.9.2 "Noise-emission measurement, declaration and verification

Noise-emission measurement, declaration and verification procedures shall be made according to the noise-test code given in Annex B."

Add the following new sub-clause 5.9.3:

"5.9.3 Information on noise emission

Information on noise emission shall be given by the manufacturer in the Instruction Handbook, see 7.2.1."

Replace the existing text in 5.10 with the following:

5.10 "A lockable device for isolation, e.g. main switch in accordance with EN 60204-1:2006, 5.3, shall be provided (see 7.2.4)."

Add the following new sub-clause 5.13:

"5.13 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 safety requirements and/or protective measures

Replace Table 2 with the following:

"Table 2 — Verification of safety requirements and/or protective measures

| Safety measure Clause no. | Method of testing (individual test) | | |
|--|-------------------------------------|----------------|----------------|
| | Visual | Functional | Measuring |
| 5.2; 5.5; 5.10; 5.11; 5.13 | X | X | |
| 5.3.1; 5.4; 5.7 | X | | X |
| 5.3.2 | X ^b | X | |
| 5.6; 5.9.2 | | | X |
| 5.9.1 | X | | |
| 5.8; 5.12 | X ^a | X ^a | X ^a |
| ^a See also EN 60204-1:2006, Clause 18. | | | |
| ^b Declaration of conformity from the producer and others. | | | |

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