



SLOVENSKI STANDARD
SIST EN 12001:2004/kprA1:2009
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Stroji za transport, brizganje in polaganje betona in malte - Varnostne zahteve

Conveying, spraying and placing machines for concrete and mortar - Safety requirements

Förder-, Spritz- und Verteilmaschinen für Beton und Mörtel - Sicherheitsanforderungen

Machines pour le transport, la projection et la distribution de béton et mortier - Prescriptions de sécurité

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Conveying, spraying and placing machines for concrete and mortar - Safety requirements

Machines pour le transport, la projection et la distribution de béton et mortier - Prescriptions de sécurité

Förder-, Spritz- und Verteilmaschinen für Beton und Mörtel - Sicherheitsanforderungen

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 12001:2003. 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 12001:2003/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.

The main changes compared to the previous version are:

- Addition of Annex ZB;
- Technical changes of clauses 5, 6 and 7;
- Addition of Annex C (normative);
- Reference to EN 292- 1 be replaced by EN ISO 12100- 1:2003 and EN 292-2 be replaced by EN ISO 12100-2: 2003.

NOTE This amendment deals with noise but in an incomplete manner so that it cannot be considered that noise is dealt with under the machinery directive. CEN/TC 151 has taken the resolution to revise the noise test code in order to make it complete.

This document includes a bibliography.

After approval by CEN, this document will be given the status of a national standard, either by publication of an identical text or by endorsement, at latest by DAV + 6 months, and conflicting national standards shall be withdrawn at latest by 2009-12-28.

EN 12001:2003/prA1:2009 (E)**1 Modification to the Introduction**

In the 1st paragraph, replace "EN 1070" with "EN ISO 12100-1:2003".

In NOTE 1, replace "DIN 24117:1987" with "DIN 24117:2007".

Add after NOTE 2 the following paragraph:

"The machinery concerned and the extent to which hazards, hazardous situations and hazardous events are covered are indicated in the scope of this document."

2 Modification to the Scope

In 1.1, 3rd paragraph, replace "3.9" with "3.7"

In 1.1, 4th paragraph, delete 3rd to 5th indent.

In 1.1, 5th paragraph, delete the last sentence: "For truck mixer see prEN 12609:1996."

In 1.1, 6th paragraph, 1st sentence, delete within the brackets "electromagnetic compatibility (immunity)".

3 Modification to Clause 2, Normative references

Replace the standard paragraph with the following:

"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."

Delete the following references:

"EN 292-1:1991, 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 294:1992, Safety of machinery — Safety distances 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 518:1995, Structural timber — Grading — Requirements for visual strength grading standards.

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

Replace "EN 614-1:1995" with "EN 614-1:2006".

Delete the following references:

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

“EN 1070:1998, *Safety of machinery — Terminology.*”

Delete “prEN 12609:1996, *Truck mixers — Safety requirements*”.

Replace reference to EN 60204-1:1997 with: “EN 60204-1:2006, *Safety of machinery — Electrical equipment of machines — Part 1: General requirements (IEC 60204-1:2005, modified)*”.

Add the following references:

“EN ISO 3744:1995, *Acoustics — Determination of sound power levels of noise sources using sound pressure — Engineering method in an essentially free field over a reflecting plane (ISO 3744:1994)*”

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 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 11688-1:1998, *Acoustics — Recommended practice for the design of low-noise machinery and equipment — Part 1: Planning (ISO/TR 11688-1:1995)*

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)*

EN ISO 13732-1:2008, *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 13849-1:2006)*

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 danger zones being reached by upper and lower limbs (ISO 13857:2008)*”

4 Modification to Clause 3, Terms and definitions

In the 1st paragraph, replace “EN 1070” with “EN ISO 12100-1:2003”.

Add the following new term and definition 3.8:

“3.8

normal operation

operation of the machine with all systems functioning.

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NOTE Exceptions: repair and maintenance, emergency operation”

5 Modification to Clause 4, List of significant hazards

In Table 1, replace the existing text relating to 4.1 with the following:

	Hazards	Location/circumstances/consequences	see clause/annex
"4.1	Mechanical hazards (according to EN ISO 12100-1:2003, 4.2)		"

”

In Table 1, replace the existing text relating to 4.2 to 4.7 with the following:

"4.2	Electrical hazards (according to EN ISO 12100-1:2003, 4.3)	Electrocution, electric shocks or burns	5.1.3
4.3	Thermal hazards (according to EN ISO 12100-1:2003, 4.4)	Access to hot machine parts	5.1.5
4.4	Hazardous noise (according to EN ISO 12100-1:2003, 4.5)	Hearing loss and other physiological damage, impaired oral communication and perception of warning signals	5.6, 7.1.13, Annex C
4.5	Hazards from materials and consumables used (according to EN ISO 12100-1:2003, 4.8)	Contact with or inhalation of harmful fluids, gases, dust or aerosols	5.1.1, 5.1.5, 5.3.4, 7
4.6	Ergonomics (according to EN ISO 12100-1:2003, 4.9)	Injury due to poor design of control stations/panels Inadequate lighting Unsuitable operator's position for fuelling Inadequate access and departure facilities	5.1.6 5 5 5
4.7	Hazards resulting from system failures (according to EN ISO 12100-1:2003, 4.3)	Failure of power supply Failure of control systems	5.1.1, 5.1.4, 5.3.1.3, 5.3.1.4, 5.3.1.5, 5.3.2.4, 5.3.3.2
4.8	Electromagnetic compatibility (EMC)	Unforeseeable functions of the machine and/or disturb of external devices	5.7"

”

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

In the 2nd paragraph, replace “EN 292” with “EN ISO 12100-1”.

Replace the 3^d paragraph with the following:

“For applications of a B level standard such as EN 614-1:2006, EN 894-1:1997, EN 894-2:1997, EN 894-3:2000, EN 982:1996, EN 1088:1995, EN 60204-1:2006, EN ISO 13850:2008, EN ISO 13857:2008, the manufacturer shall carry out an adequate risk assessment for the requirements thereof where choice is necessary.”

7 Modification to 5.1, Requirements common to all machines

In 5.1.3, replace "EN 60204-1:1997" with "EN 60204-1:2006".

In 5.1.4, replace the last indent with the following: "

— shall comply with EN ISO 13850:2008."

In 5.1.5, 1st paragraph, replace "EN 563:1994" with "EN ISO 13732-1:2008".

In 5.1.6, replace "EN 614-1:1995" with "EN 614-1:2006".

In 5.1.7, replace in the 1st paragraph, the 2nd sentence, with:

"The control system shall be in accordance with EN ISO 13849-1, Performance Level PLc."

Replace the 3rd paragraph with:

"The machine shall comply with the EMC requirements as defined in EN 13309."

Add the following new sub-clause 5.1.8: "

5.1.8 Fixed guards

Their fixing systems shall remain attached to the guards or to the machinery when the guards are removed. Fixed guards shall follow the design principle as defined in EN 953."

8 Modification to 5.2, Specific requirements for single machines

In the 2nd paragraph, 1st indent, delete: "(see prEN 12609:1996)".

In the 2nd paragraph, replace the 2nd indent with: "

— mortar-conveying and spraying machines, see 5.3.2

NOTE For combined machines with mixers see also EN 12151:2007;"

9 Modification to 5.3, Machinery groups

In the table, 4th column, 1st row, replace "EN 292-1:1991" with "EN ISO 12100-1:2003".

In 5.3.1, replace the rows relating to 5.3.1.3 and 5.3.1.4 with:

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Component	Hazard group	Hazard	According to "EN ISO 12100-1:2003"	Safety measures
5.3.1.3 Pump		Crushing between fixed and movable parts	4.2.1	Screwed covering with distances according to EN ISO 13857:2008 or if the covering is movable, a fixed guard shall be provided as per EN 953:1997. Screwed coverings shall only be able to be opened with tools.
5.3.1.4 Drive area		Crushing between hinged covers and machine parts	4.2.1	Hinged covers shall be lockable in opened position.
		Entanglement by free-running shafts	4.2.1	Screwed covering with distances according to EN ISO 13857:2008. Screwed coverings shall only be able to be opened with tools.
		Entrapment between V-belt and driving pulleys	4.2.1	Screwed covering with distances according to EN ISO 13857:2008. Screwed coverings shall only be able to be opened with tools.
		Unexpected machine movements		If starting the engine, an unintentional and unexpected hazardous movement shall be avoided."

In 5.3.1.5, replace in the fourth column "4.2.3" with "4.10".

In 5.3.1.5, replace in the fourth column "4.2.10" with "4.2.1".

In 5.3.1.5, replace in the fourth column "4.10" with "4.11".

In 5.3.2, in the table, 4th column, 1st row, replace "EN 292-1:1991" with "EN ISO 12100-1:2003".

In 5.3.2.1, last column, replace "EN 294:1992" with "EN ISO 13857:2008".

In 5.3.2.3, last column, 2nd and 3rd rows, replace "EN 294:1992" with "EN ISO 13857:2008".

In 5.3.2.4, in the table, 4th column, 2nd and 3rd rows, replace "4.10" with "4.11".