



SLOVENSKI STANDARD
oSIST prEN 17106-3-2:2017
01-junij-2017

**Obratovanje cestnih strojev - Varnost - 3-2. del: Stroji za storitve zimske službe -
Posebne zahteve za posipalnike**

Road operation machinery - Safety - Part 3-2: Winter service machines - Specific requirements for spreading machines

Maschinen für den Straßenbetriebsdienst - Sicherheit - Teil 3-2: Maschinen für den Winterdienst – Spezifische Anforderungen für Streugeräte

Machines d'exploitation des routes - Sécurité - Partie 3-2 : Partie 3-2 : Machines de service hivernal - Exigences pour machines d'épandage

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ICS:

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
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March 2017

ICS 43.160

Will supersede EN 13019:2001+A1:2008,
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English Version

Road operation machinery - Safety - Part 3-2: Winter service machines - Specific requirements for spreading machines

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Maschinen für den Straßenbetriebsdienst - Sicherheit - Teil 3-2: Maschinen für den Winterdienst - Spezifische Anforderungen für Streugeräte

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 151.

If this draft becomes a European Standard, 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 17106-3-2:2017) 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 CEN Enquiry.

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.

This document will supersede EN 13021:2003+A1:2008, EN 13524:2003+A2:2014 and EN 13019:2001+A1:2008.

EN 17106 consists of the following parts, under the general title "*Road operation machinery – Safety*":

- *Part 1: General requirements*
- *Part 2: Specific requirements for road surface cleaning machines*
- *Part 3-1: Winter service machines – Specific requirements for snow clearing machines with rotating tools and snow ploughs*
- *Part 3-2: Winter service machines – Specific requirements for spreading machines*
- *Part 4-1: Road service area maintenance machines – Specific requirements for grass and brush/hedge cutting machines*

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Introduction

This document is a type C standard as stated in EN ISO 12100.

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

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

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1 Scope

This European Standard, together with part 1, deals with all significant hazards for winter service machines – spreading machines when they are used as intended and under the conditions of misuse which are reasonably foreseeable by the manufacturer associated with the whole life time of the machine (see Clause 4).

The requirements of this part are complementary to the common requirements formulated in prEN 17106-1.

This document does not repeat the requirements from prEN 17106-1, but adds or replaces the requirements for application for winter service machines – spreading machines.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12195-1, *Load restraining on road vehicles - Safety - Part 1: Calculation of securing forces*

prEN 17106-1, *Road operation machinery - Safety - Part 1: General requirements*

EN ISO 6682, *Earth-moving machinery - Zones of comfort and reach for controls (ISO 6682)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13850:2015, *Safety of machinery - Emergency stop function- Principles for design (ISO 13850:2015)*

ISO/FDIS 15818, *Earth-moving machinery - Lifting and tying-down attachment points - Performance requirements*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and the following apply.

3.1

operating area

section of surface covered with spreading material while machine is stationary, according to all possible spreading widths and other settings

4 List of additional significant hazards

Clause 4 of prEN 17106-1:2017 applies with the following Table 1.

Table 1 of prEN 17106-1:2017 and Table 1 of this document contains all hazards and hazardous situations as far as they are dealt with in this European Standard, identified by risk assessments significant to this type of machinery that require action to eliminate or reduce risk.

Table 1 — List of additional significant hazards

	Hazard	Hazardous situation/event	Subclause of this European Standard (EN 17106-3-2)
A.1	Mechanical hazards		
A.1.1	Crushing hazard	<ul style="list-style-type: none"> — Controls — Boarding means — Platforms — Power transmission — Service/maintenance — Stability 	5.3.1 5.5.1 5.5.1 5.4.1, 5.4.2 5.4.1, 5.4.2 5.7
A.1.2	Shearing hazard	<ul style="list-style-type: none"> — Controls — Boarding means — Platforms — Power transmission — Working tools — Service/maintenance — Stability 	5.3.1 5.5.1 5.5.1 5.4.1, 5.4.2 5.4.2 5.4.1, 5.4.2 5.7
A.1.3	Cutting or severing hazard	<ul style="list-style-type: none"> — Working tools 	5.4.1, 5.4.2
A.1.4	Entanglement hazard	<ul style="list-style-type: none"> — Power transmission parts — Working tools — Starting/stopping the engine 	5.4.1, 5.4.2 5.4.1, 5.4.2 5.3.3, 5.3.4
A.1.5	Drawing-in or trapping hazard	<ul style="list-style-type: none"> — Power transmission parts — Working tools — Starting/stopping the engine 	5.4.1, 5.4.2 5.4.1, 5.4.2 5.3.3, 5.3.4
A.4	Hazards generated by noise		
	Hearing loss (deafness), other physiological disorders (e.g. loss of balance, loss of awareness) Accidents due to interference with speech communication and acoustic warning signals	<ul style="list-style-type: none"> — Noise 	5.2
A.6	Hazards generated by neglecting ergonomic principles in machinery design		
A.6.1	Unhealthy postures or excessive effort	<ul style="list-style-type: none"> — Boarding means — Service and maintenance — Operator station 	5.5 5.5 5.5

	Hazard	Hazardous situation/event	Subclause of this European Standard (EN 17106-3-2)
A.6.2	Inadequate consideration of hand–arm or foot–leg anatomy	— Controls — Boarding means — Operator station	5.3.1 5.5 5.5
A.6.3	Neglected use of personal protective equipment	— Operator's manual	7
A.6.4	Inadequate local lighting	— Visibility	5.8.1
A.6.6	Human error, human behaviour	— Operator's manual	7
A.6.7	Inadequate design, location or identification manual controls	— Controls	5.3.1, 5.8.1
A.7	Combination of hazards	— Operator's manual	7
A.8	Unexpected start-up, unexpected overrun/overspeed		
A.8.1	Failure/disorder of the control system	— Service and maintenance — Electrical equipment	5.3.2 5.3.2, 5.8.1
A.8.4	Other external influences (gravity, wind, etc.)	— Stability	5.7
A.8.5	Errors made by the operator (due to mismatch of machinery with human characteristics and abilities)	— Controls — Operator's manual	5.3.1, 5.8.1
A.9	Impossibility of stopping the machine in the best possible conditions	— Controls — Starting/stopping the engine	5.3.1, 5.3.2 5.3.3, 5.3.4
A.13	Errors of fitting	— Operator's manual	7
A.15	Falling or ejected objects or fluids	— Supports — Hydraulic components	5.4.2
Additional hazards, hazardous situations and hazardous events due to mobility			
A.18	Related to the travelling function		
A.18.1	Movement when starting the engine	— Starting/stopping the engine	5.3.1, 5.3.3, 5.3.4
A.19	Link to the work position		
A.19.1	Fall of persons during access to (or at/from) the work position	— Boarding means	5.5
A.19.5	Insufficient visibility from the work positions	— Visibility	5.8.1
A.19.6	Inadequate lighting	— Visibility	5.8.1

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	Hazard	Hazardous situation/event	Subclause of this European Standard (EN 17106-3-2)
A.19.7	Inadequate seating	— Operator's seat	5.5
A.19.9	Insufficient means for evacuation/emergency exit	— Emergency exit	5.5
A.20	Due to the control system		
A.20.1	Inadequate location of manual controls	— Controls	5.3.1, 5.8.1
A.20.2	Inadequate design of manual controls and their mode of operation	— Controls	5.3.1, 5.3.2, 5.3.3, 5.3.4, 5.8.1
A.21	From handling the machine (lack of stability)		
		— Stability	5.7
A.22	Due to the power source and to the transmission of power		
A.22.1	Hazards from the engine and the batteries	— Starting/stopping the engine — Battery	5.3.3, 5.3.4, 5.6.1 5.6.1
A.23	From/to third persons		
A.23.1	Unauthorized start-up and use	— Starting/stopping the engine	5.3
A.24	Insufficient instructions for the driver/operator		
		— Operator's manual	7

5 Safety requirements and/or measures

5.1 General

Winter service machines – spreading machines shall comply with the requirements of prEN 17106-1, as far as not modified or replaced by the requirements of this part.

5.2 Noise

Sub-clause 5.1.2.2.2 in part 1 applies with the following exception:

A cab is not considered as a suitable measure to reduce the noise level.

5.3 Controls

5.3.1 General

Sub-clause 5.1.4.1 in part 1 applies with the following addition:

Controls for adjusting the amount and width of spreading shall be positioned outside the operating area.

NOTE This requirement can be satisfied when spreaders are controlled by remote control from the cab of the carrier vehicle.