



SLOVENSKI STANDARD SIST EN 15811:2010

01-marec-2010

Šifra in oznaka standarda: SIST EN 15811:2010

Agricultural machinery - Guards for moving parts of power transmission - Guard opening with tool (ISO/TS 28923:2007 modified)

Landmaschinen - Schutzeinrichtungen für bewegte Teile der Kraftübertragung - Mit Werkzeug zu öffnende Schutzeinrichtung (ISO/TS 28923:2007, modifiziert)

Matériel agricole - Protecteurs pour éléments mobiles de transmission de puissance - Protecteur à ouverture avec outil (ISO/TS 28923:2007 modifiée)

<https://standards.iteh.ai/catalog/standards/sist/a88717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010>

Ta slovenski standard je istoveten z: EN 15811:2009

ICS:

65.060.01	Kmetijski stroji in oprema na splošno	Agricultural machines and equipment in general
-----------	---------------------------------------	--

SIST EN 15811:2010

en,fr

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 15811:2010

<https://standards.iteh.ai/catalog/standards/sist/a88717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010>

EUROPEAN STANDARD

EN 15811

NORME EUROPÉENNE

EUROPÄISCHE NORM

September 2009

ICS 65.060.01

English Version

Agricultural machinery - Guards for moving parts of power transmission - Guard opening with tool (ISO/TS 28923:2007 modified)

Matériel agricole - Protecteurs pour éléments mobiles de transmission de puissance - Protecteur à ouverture avec outil (ISO/TS 28923:2007 modifiée)

Landmaschinen - Schutzeinrichtungen für bewegte Teile der Kraftübertragung - Mit Werkzeug zu öffnende Schutzeinrichtung (ISO/TS 28923:2007, modifiziert)

This European Standard was approved by CEN on 10 August 2009.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, 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.

<https://standards.iteh.ai/catalog/standards/sist/a66717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010>



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

Contents

Page

Foreword.....	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 Moving parts for power transmission	5
5 Verification of safety requirements or protective measures.....	6
6 Information for use	6
6.1 Operator's manual	6
6.2 Safety and instructional signs.....	6
Annex A (informative)	7
Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 98/37/EC	8
Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC.....	9
Bibliography	10

SIST EN 15811:2010

<https://standards.iteh.ai/catalog/standards/sist/a88717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010>

Foreword

This document (EN 15811:2009) has been prepared by Technical Committee CEN/TC 144 "Tractors and machinery for agriculture and forestry", the secretariat of which is held by AFNOR.

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 March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

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 Directives 98/37/EC and 2006/42/EC.

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

This European Standard specifies safety requirements related to fixed guards of moving parts of mechanical power transmission and is to be used with EN ISO 4254-1:2009. The term "guard" is to be understood as "fixed guard", whenever used. This is also applicable to "access doors" designed as a guard.

The following editorial changes were introduced compared to ISO/TS 28923:2007:

- Updating of references, i.e.:
 - ISO 4254-1 is replaced with EN ISO 4254-1:2009;
 - ISO 13852:1996 is replaced with EN ISO 13857:2008.
- Correction of an error in 4.7:
 - The reference to ISO 12100-2:2003, 4.2.2.3 is replaced with ISO 12100-2:2003, 5.3.2.3;
- Addition of Annexes ZA and ZB.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, 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 the United Kingdom.

Introduction

The structure of safety standards in the field of machinery is as follows.

- a) Type-A standards (basis standards) give basic concepts, principles for design, and general aspects that can be applied to machinery.
- b) Type-B standards (generic safety standards) deal with one or more safety aspect(s) or one or more type(s) of safeguards that can be used across a wide range of machinery:
 - type-B1 standards on particular safety aspects (e.g. safety distances, surface temperature, noise);
 - type-B2 standards on safeguards (e.g. two-hands controls, interlocking devices, pressure sensitive devices, guards);
- c) Type-C standards (machinery safety standards) deal with detailed safety requirements for a particular machine or group of machines.

This European Standard is a type-C standard as stated in EN ISO 12100-1.

When provisions of this type-C standard are different from those which are stated in type-A or type-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.

[SIST EN 15811:2010](https://standards.iteh.ai/catalog/standards/sist/a88717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010)

<https://standards.iteh.ai/catalog/standards/sist/a88717c5-30ae-49fa-8a34-37ee2b388a4b/sist-en-15811-2010>

1 Scope

This European Standard gives safety requirements, and the means of verifying them, for the design and construction of guards, only able to be opened with a tool, which are used to guard the moving parts of the power transmission of self-propelled ride-on machines and mounted, semi-mounted or trailed machines used in agriculture. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer.

It deals with the significant hazards (as listed in Annex A), hazardous situations and events relevant to guards of moving parts of power transmission used as intended and under the conditions foreseen by the manufacturer (see Clauses 4 and 5).

It is not applicable to guards for moving parts of the power transmission of:

- tractors,
- aircraft,
- air cushion vehicles, or
- lawn and garden equipment.

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 ISO 4254-1:2009, *Agricultural machinery - Safety - Part 1: General requirements (ISO 4254-1:2008)*

EN ISO 12100-2:2003, *Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles (ISO 12100-2:2003)*

EN ISO 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 4254-1:2009 apply.

4 Moving parts for power transmission

4.1 Power transmission moving parts which generate hazards shall be guarded by location, by safety distance or with fixed guarding.

4.2 The design of guards shall take into consideration the risk to the operator, the proper functioning of the machine and the generation of other hazards such as drainage, avoidance of debris accumulation or blockages and the impediment of a machine's material handling functions.

4.3 Guards shall be designed such that normal operation and service of the machine can be readily carried out.

EN 15811:2009 (E)

4.4 Guards may be formed of a rigid mesh or grille. The size of the opening permitted depends on the distance between the guard and the hazard/hazardous area (see EN ISO 13857:2008, Table 1, 3, 4 or 6). The design of the guard shall be such that it is not possible to distort the mesh or the grille during normal operation and use such that the opening size and distance relationship exceeds the limits in accordance with EN ISO 13857.

4.5 If normal access is foreseen — for example, for adjustment or maintenance — guards shall be used and, where practical, shall be of a type which remains attached to the machine (e.g. by means of hinges or tethers).

4.6 Machines with access doors or guards which can be opened or removed to expose machine elements which continue to rotate or move after the power is disengaged shall have, in the immediate area, a readily visible evidence of rotation, or an audible indication of rotation, or a suitable safety sign (see 6.1. and 6.2).

4.7 Guards shall be such that they can only be opened by use of a tool (in order to make opening an intentional action) and that they automatically lock without the use of a tool, if under normal working conditions access is required.

NOTE “Normal access” is given when the operator must adjust certain components for given functions during normal operation according to the intended use of the machine.

If this type of guard is not used, moveable guards in accordance with EN ISO 12100-2:2003, 5.3.2.3, shall be provided, which:

- cause the stop of the hazardous movement before reaching the hazard zone, or
- prevent their opening as long as the hazardous movement exists.

4.8 The strength of the guards shall comply with EN ISO 4254-1.

SIST EN 15811:2010

5 Verification of safety requirements or protective measures

See Table 1.

Table 1 — List of safety requirements and/or protective measures and their verification

Clause/subclause	Verification		
	Inspection	Measurement	Procedure/reference
4.5	X	-	Shall be verified by carrying out adjustment or maintenance operations described in the operator's manual.

6 Information for use

6.1 Operator's manual

The manual shall include warnings about the significant residual risks and how these are to be controlled, as well as any training requirements (see 4.6).

6.2 Safety and instructional signs

A safety sign shall be provided on access doors or guards to indicate the rotation of parts, if applicable (see 4.6).

Annex A (informative)

List of significant hazards

Table A.1 specifies the significant hazards, significant hazardous situations and significant hazardous events that have been identified as being significant to the guards for moving parts of power transmissions covered by this European Standard and which require specific action by the designer or manufacturer to eliminate or reduce the risk.

Table 1 — List of significant hazards

Clause/ subclause of EN ISO 4254- 1:2009	Hazard	Hazardous situation and event	Clause/subclause of this standard
A.1	Mechanical hazards		
A.1.1	Crushing hazard	Power transmission	4; 6
A.1.2	Shearing hazard	Power transmission	4; 6
A.1.4	Entanglement hazard	Power transmission parts	4; 6
A.1.5	Drawing-in or trapping hazard	Power transmission parts	4; 6
A.14	Break-up during operation	Guards	4.8
A.19.4	Mechanical hazards at the working position: a) contact with power transmission parts	Guards	4; 6