

**SLOVENSKI STANDARD**  
**oSIST prEN ISO 4254-9:2015**  
**01-julij-2015**

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**Kmetijski stroji - Varnost - 9. del: Sejalnice (ISO/DIS 4254-9:2015)**

Agricultural machinery - Safety - Part 9: Seed drills (ISO/DIS 4254-9:2015)

Landmaschinen - Sicherheit - Teil 9: Sägeräte (ISO/DIS 4254-9:2015)

Matériel agricole - Sécurité - Partie 9 : Semoirs (ISO/DIS 4254-9:2015)

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**ICS:**

65.060.30	Sejalna in sadilna oprema	Sowing and planting equipment
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**oSIST prEN ISO 4254-9:2015**

**en**



# DRAFT INTERNATIONAL STANDARD

## ISO/DIS 4254-9

ISO/TC 23/SC 3

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### Agricultural machinery — Safety —

### Part 9: Seed drills

*Matériel agricole — Sécurité —**Partie 9: Semoirs*

ICS: 65.060.30

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#### ISO/CEN PARALLEL PROCESSING

This draft has been developed within the International Organization for Standardization (ISO), and processed under the **ISO lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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

ISO 4254-9 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 3, and by Technical Committee CEN/TC 144, *Tractors and machinery for agriculture and forestry* in collaboration.

This third edition cancels and replaces the second edition (2008), has been technically revised.

ISO 4254 consists of the following parts, under the general title *Agricultural machinery — Safety*:

*Part 1: General requirements*

*Part 5: Power-driven soil-working machines*

*Part 6: Sprayers and liquid fertilizer distributors*

*Part 7: Combine harvesters, forage harvesters and cotton harvesters*

*Part 8: Solid fertilizer distributors*

*Part 9: Seed drills*

*Part 10: Rotary tedders and rakes*

*Part 11: Pick-up balers*

*Part 12: Rotary mowers and flail mowers*

Part 2, *Anhydrous ammonia applicators*, has been withdrawn, Part 3, *Tractors*, has been cancelled and replaced by ISO 26322 (all parts), *Tractors for agriculture and forestry — Safety*, and Part 4, *Forestry winches*, has been cancelled and replaced by ISO 19472, *Machinery for forestry — Winches — Dimensions, performance and safety*.

## Introduction

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

- Type-A standards (basis standards) give basic concepts, principles for design, and general aspects that can be applied to machinery.
- Type-B standards (generic safety standards) deal with one or more safety aspects or one or more types 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);
- Type-C standards (machinery safety standards) deal with detailed safety requirements for a particular machine or group of machines.

This part of ISO 4254 is a type-C standard as stated in ISO 12100.

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.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this part of ISO 4254. These hazards are specific to seed drills.

Significant hazards that are common to all the agricultural machines (self-propelled, mounted, semi-mounted and trailed) are dealt with in ISO 4254-1.





# Agricultural machinery — Safety — Part 9: Seed drills

## 1 Scope

This part of ISO 4254, intended to be used together with ISO 4254-1, specifies the safety requirements, and their verification for design and construction, of mounted, semi-mounted, trailed or self-propelled seed drills, including the seeding function of combined seed and fertilizer drills, and seed drills with integrated and inseparable powered soil-working tools used in agriculture. In addition, it specifies the type of information on safe working practices (including residual risks) to be provided by the manufacturer.

This part of ISO 4254 is (also) applicable to seeding systems where components for seed deposition in the soil, for seed metering and for seed storage are distributed between two or more linked vehicles.

This part of ISO 4254 deals with all the significant hazards (as listed in Annex A), hazardous situations and events relevant to seed drills, when they are used as intended and under the conditions foreseen by the manufacturer, excepting the hazards arising from:

- electrostatic phenomena;
- external influences on electrical equipment;
- failure of energy supply;
- failure, malfunction of control system;
- inadequate visibility from drivers/operators position;
- travelling functions (drive, braking etc.);
- break-up of parts rotating at high speed;
- equipment for loading seeds (and fertilizer).

This part of ISO 4254 is not applicable to:

- fertilizer distributors designed only for solid fertilizer application (dealt with in ISO 4254-8);

This part of ISO 4254 is not applicable to electromagnetic compatibility (EMC) nor to environmental hazards (except noise).

This part of ISO 4254 is not applicable to seed drills which are manufactured before the date of its publication.

When requirements of this part of ISO 4254 are different from those which are stated in ISO 4254-1 the requirements of this part of ISO 4254 take precedence over the requirements of ISO 4254-1 for machines that have been designed and built according to the provisions of this part of ISO 4254.

## 2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

## ISO/DIS 4254-9

ISO 4254-1:2013, *Agricultural machinery – Safety – Part 1: General requirements*

ISO 4254-5, *Agricultural machinery- Safety – Part 5: power-driven soil-working equipment*

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

ISO 12100:2010, *Safety of machinery – General principles for design – Risk assessment and risk reduction*

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

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 12100 and ISO 4254-1 and the following apply.

#### 3.1

##### **seed drill**

machine for sowing seeds (e.g. cereals) in a continuous manner

#### 3.2

##### **seed drill with integrated and inseparable powered soil-working tools**

seed drill as a single machine including the functions of seeding and of soil-working powered tools of which neither the seed drill nor the powered soil working tools can be used separately

#### 3.3

##### **single seed drill**

machine for sowing one seed (e.g. sugar beet) at a time with equal space between each seed

#### NOTE

Examples of such machines are given in Annex B.

#### 3.4

##### **combined seed and fertilizer drill**

machine which simultaneously applies seed and fertilizer

#### 3.5

##### **application rate**

mass of seed applied per unit area, in kg/ha, or number of seeds applied per unit area, in number of seeds per ha

### 4 Safety requirements and protective measures

#### 4.1 General

Machinery shall comply with the safety requirements and protective measures of this clause. Unless otherwise specified in this part of ISO 4254, the machine shall comply with the requirements of ISO 4254-1. In addition, the machine shall be designed according to the principles of ISO 12100 for relevant but not significant hazards, which are not dealt with by this standard.

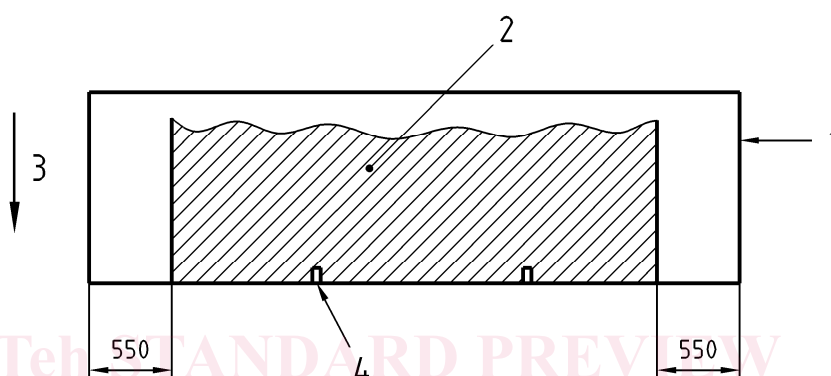
In case of seed drills with integrated and inseparable powered soil-working tools ISO 4254-5 shall be applied to the powered soil-working tools.

## 4.2 Controls

**4.2.1** Manual controls for any adjustments located on seed drills which are intended to be mounted at the rear of soil working machines with powered tools shall meet the following requirements:

- these adjustments shall be possible with the machine stopped;
- the manual controls shall be located so that the operator does not need to be at the front of the machine to activate them. This requirement is met if manual controls are accessible to the operator standing on the ground and not located in the shaded area as shown in Figure 1. This shall be verified by measurement and inspection. Markers are excluded from the outer limits of the seed drill. See also 6.1 a).

Dimensions in millimetres



'550' to be replaced by ' $\leq 550$ '

### Key

- Outer limits of the seed drill
- Area in which the manual controls for the adjustments shall not be located
- Forward direction
- Lower coupling points of the machine, if provided

**Figure 1 — Area where the manual controls for the adjustments shall not be located (case of machines which are intended to be mounted on the rear of soil-working machines with powered tools)**

**4.2.2** In other cases, manual controls for the adjustments located on the machine shall meet the following requirements:

- adjustments shall be possible with the machine stopped;
- the manual controls accessible to the operator standing on the ground shall not be located in the shaded area as shown in Figure 2. See also 6.1 a).

Dimensions in millimetres