

**Põllumajandusmasinad. Ohutus. Osa 7:
Teraviljakombainid, sööda- ja puuvillakoristid**

Agricultural machinery - Safety - Part 7: Combine harvesters,
forage harvesters and cotton harvesters

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 4254-7:2009 sisaldab Euroopa standardi EN ISO 4254-7:2009 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 30.11.2009 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Euroopa standardimisorganisatsioonide poolt rahvuslikele liikmetele Euroopa standardi teksti kättesaadavaks tegemise kuupäev on 30.09.2009.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 4254-7:2009 consists of the English text of the European standard EN ISO 4254-7:2009.

This standard is ratified with the order of Estonian Centre for Standardisation dated 30.11.2009 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

Date of Availability of the European standard text 30.09.2009.

The standard is available from Estonian standardisation organisation.

ICS 65.060.50

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English Version

**Agricultural machinery - Safety - Part 7: Combine harvesters,
forage harvesters and cotton harvesters (ISO 4254-7:2008)**

Matériel agricole - Sécurité - Partie 7: Moissonneuses-
batteuses, récolteuses-hacheuses-chargeuses de fourrage
et récolteuses de coton (ISO 4254-7:2008)

Traktoren und land- und forstwirtschaftliche Maschinen -
Sicherheit - Teil 7: Mährescher, Feldhäcksler und
Baumwollentemaschinen (ISO 4254-7:2008)

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Foreword

The text of ISO 4254-7:2008 has been prepared by Technical Committee ISO/TC 23 "Tractors and machinery for agriculture and forestry", Subcommittee SC 7, 'Equipment for harvesting and conservation' of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4254-7:2009 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of an identical text or by endorsement, at the latest by March 2010, and conflicting national standards shall be withdrawn at the latest by March 2010.

This document supersedes EN 632:1995.

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 Directive.

For relationship with EU Directive, see informative Annex ZA, which is an integral part of this document.

This document cancels and replaces EN 632:1995, which has been technically revised.

The following major changes were introduced:

- addition of the scope and of requirements for cotton harvesters
- deletion of the reference to EN 1553:1999 "*Agricultural machinery - Agricultural self-propelled, mounted, semi-mounted and trailed machines - Common safety requirements*" and replacement with EN ISO 4254-1:— "*Agricultural machinery - Safety – Part 1: General requirements*" (ISO 4254-1:2008);
- deletion of the requirements related to the guarding of moving parts for power transmission dealt with in EN 15811:— "*Agricultural machinery - Guards for moving parts of power transmission - Guard opening with tool*" (ISO/TS 28923:2007 modified);
- addition of requirements applicable for all machines covered by the scope:
 - for an instructional seat;
 - for an automatic header disengagement control;
 - for ventilation of cabins;
 - related to hot surfaces;
 - for automatic guidance systems;
 - for greasing;
 - related to risks of possible contact with overhead power lines;
 - for drive reverser for header and feeding elements;

- addition of requirements applicable for combine harvesters:
 - for clean grain and returns handling systems;
 - for mid-mounted vertical axis choppers of maize picker head;
 - for driven spreaders of straw choppers;
 - for chaff spreaders and straw spreaders;
- addition of requirements applicable for forage harvesters:
 - for an additional control of the reverser located outside the operator's work station;
 - for cutterhead drive;
 - related to the run down of the cutterhead and blower.
- addition of an Annex for colour coding of hand controls (Annex A);
- addition of an Annex for noise measurement (Annex B);
- addition of Annex ZA.

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.

Endorsement notice

The text of ISO 4254-7:2008 has been approved by CEN as a EN ISO 4254-7:2009 without any modification.

Annex ZA
(informative)
Relationship between this European Standard and the Essential
Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements, *except Essential Requirement(s) for all machines: 1.3.1 first paragraph, 1.3.7 first paragraph, 1.3.8.1, 1.4 with the exception of 1.4.1 first indent, all with regard to moving parts of power transmission, 1.5.11, 1.6.1 (only for cleaning of the grain tank), 1.7.3 first paragraph, first, second and sixth indent, 1.7.4.2 j), 1.7.4.2 t), 1.7.4.2 u), fourth paragraph, second sentence, and additionally for self-propelled machines: 1.1.8 only for vibration, 1.5.9, 1.5.12, 3.3.3, 3.4.7 fifth, seventh and eight paragraph of that Directive and associated EFTA regulations.*

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard."

Agricultural machinery — Safety —

Part 7:

**Combine harvesters, forage harvesters
and cotton harvesters**

Matériel agricole — Sécurité —

Partie 7: Moissonneuses-batteuses, récolteuses-hacheuses-chargeuses de fourrage et récolteuses de coton



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Published in Switzerland

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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 4254-7 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 7, *Equipment for harvesting and conservation*.

This second edition cancels and replaces the first edition (ISO 4254-7:1995), which has been technically revised.

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

- *Part 1: General requirements*
- *Part 3: Tractors¹⁾*
- *Part 5: Power-driven soil working equipment*
- *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 disc and drum mowers and flail mowers*

Part 4, *Forestry winches*, was cancelled and replaced by ISO 19472, *Machinery for forestry — Winches — Dimensions, performance and safety*.

1) Under the general title *Tractors and machinery for agriculture and forestry — Technical means for ensuring safety*. To be cancelled and replaced by ISO 26322 (all parts), *Tractors and machinery for agriculture and forestry — Safety*.

Introduction

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

- a) Type-A standards (basic 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-hand 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 part of ISO 4254 is a type-C standard as stated in 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.

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 combine harvesters, forage harvesters and cotton harvesters.

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

Agricultural machinery — Safety —

Part 7: Combine harvesters, forage harvesters and cotton harvesters

1 Scope

This part of ISO 4254, intended to be used together with ISO 4254-1, specifies the safety requirements and their verification for the design and construction of combine harvesters, forage harvesters and cotton harvesters. It describes methods for the elimination or reduction of hazards arising from the intended use of these machines by one person (the operator) in the course of normal operation and service. In addition, it specifies the type of information on safe working practices to be provided by the manufacturer.

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

This part of ISO 4254, taken together with ISO 4254-1, deals with all the significant hazards (as listed in Table 1), hazardous situations and events relevant to combine harvesters, forage harvesters and cotton harvesters, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4). It is not applicable to hazards arising from the presence of persons other than the operator, cleaning of the grain tank, and hazards related to vibrations and moving parts for power transmission, except for strength requirements for guards and barriers. In respect of braking and steering, it is applicable only to the ergonomic aspects (e.g. location of brake pedal and steering wheel); no other aspects related to braking and steering are covered. In the case of trailed harvesters, it is applicable only to hazards related to the working process.

NOTE Specific requirements related to road traffic regulations are not taken into account in this part of ISO 4254.

This part of ISO 4254 is not applicable to machines manufactured before the date of its publication.

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.

ISO 3600:1996, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Operator's manuals — Content and presentation*

ISO 3767-1, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 3767-2, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 2: Symbols for agricultural tractors and machinery*

ISO 3776-1:2006, *Tractors and machinery for agriculture — Seat belts — Part 1: Anchorage location requirements*

ISO 3776-2:2007, *Tractors and machinery for agriculture — Seat belts — Part 2: Anchorage strength requirements*

ISO 4253:1993, *Agricultural tractors — Operator's seating accommodation — Dimensions*

ISO 4254-1:2008, *Agricultural machinery — Safety — Part 1: General requirements*

ISO 5131:1996, *Acoustics — Tractors and machinery for agriculture and forestry — Measurement of noise at the operator's position — Survey method*

ISO 5353:1995, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

ISO 5687:1999, *Equipment for harvesting — Combine harvesters — Determination and designation of grain tank capacity and unloading device performance*

ISO 9533:1989, *Earth-moving machinery — Machine-mounted forward and reverse audible warning alarm — Sound test method*

ISO 11684:1995, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Safety signs and hazard pictorials — General principles*

ISO 12100-1:2003, *Safety of machinery — Basic concepts, general principles for design — Part 1: Basic terminology, methodology*

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

ISO 15077:2008, *Tractors and self-propelled machinery for agriculture — Operator controls — Actuating forces, displacement, location and method of operation*

3 Terms and definitions

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

3.1 instructional seat

integral or separate seat to allow a trainer or trainee to be seated

3.2 guidance system

automatic system to control machine steering during the harvesting operation

3.3 combine harvester

mobile grain-harvesting machine for cutting, stripping or picking up crops, threshing, separating, cleaning and conveying grain into a grain tank and depositing harvest residue onto the ground

3.4 clean grain and returns handling systems

systems for conveying of clean grain and returns within the machine by augers and/or elevators to the grain tank or threshing/re-threshing system