



**International  
Standard**

**ISO 4254-20**

**Agricultural machinery — Safety —  
Part 20:  
Grape, olives and coffee harvesters**

*Matériel agricole — Sécurité —*

*Partie 20: Machines à vendanger, de récolte des olives et du café*

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at [www.iso.org/patents](http://www.iso.org/patents). ISO shall not be held responsible for identifying any or all such patent rights.

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 7, *Equipment for harvesting and conservation*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 144, *Tractors and machinery for agriculture and forestry*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

A list of all parts in the ISO 4254 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document is a type-C standard as stated in ISO 12100:2010.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance, etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (for example, trade unions, organizations for people with special needs);
- service providers, for example for maintenance (small, medium and large enterprises);
- consumers (in the case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate at the drafting process of this document.

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

When requirements of this type-C standard are different from those which are stated in type-A or B standards, the requirements of this type-C standard take precedence over the requirements of the other standards for machines that have been designed and built according to the requirements 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 document. These hazards are specific to grape, olives and coffee 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 4254-1:2013 and ISO 4254-1:2013/AMD1:2021.



# Agricultural machinery — Safety —

## Part 20: Grape, olives and coffee harvesters

### 1 Scope

This document, when used together with ISO 4254-1:2013 and ISO 4254-1:2013/AMD1:2021, specifies the safety requirements and their verification for the design and construction of trailed and self-propelled harvesters for grapes, olives and coffee. 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 document are different from those which are stated in ISO 4254-1:2013 and ISO 4254-1:2013/AMD1:2021, the provisions of this document take precedence over the provisions of ISO 4254-1:2013 and ISO 4254-1:2013/AMD1:2021 for machines that have been designed and built according to the provisions of this document.

This document, taken together with ISO 4254-1:2013 and ISO 4254-1:2013/AMD1:2021, deals with all the significant hazards, hazardous situations and events relevant to trailed and self-propelled harvesters for grapes, olives and coffee, when they are used as intended and under the conditions of misuse that are reasonably foreseeable by the manufacturer. It is not applicable to hazards arising from the presence of persons other than the operator, hazards related to lack of visibility, except lighting, hazards related to vibrations and moving parts for power transmission, except for strength requirements for guards and barriers.

This document does not deal with environmental hazards, except noise.

In respect of steering of self-propelled machines, it is applicable only to the ergonomic aspects (for example, location of the steering wheel); no other aspects related to steering are covered.

NOTE Specific requirements related to road traffic regulations are not taken into account in this document.

This document is not applicable to machines manufactured before the date of its publication.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 3600:2022, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Operator's manuals — Content and format*

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

ISO 3776-2:2013, *Tractors and machinery for agriculture — Seat belts — Part 2: Anchorage strength requirements*

ISO 3776-3:2009, *Tractors and machinery for agriculture — Seat belts — Part 3: Requirements for assemblies*

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

## ISO 4254-20:2025(en)

ISO 4254-1:2013/AMD 1:2021, *Agricultural machinery — Safety — Part 1: General requirements — Amendment 1*

ISO 5700:2013, *Tractors for agriculture and forestry — Roll-over protective structures — Static test method and acceptance conditions*

ISO 5721-1:2013, *Agricultural tractors — Requirements, test procedures and acceptance criteria for the operator's field of vision — Part 1: Field of vision to the front*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

ISO 9533:2010, *Earth-moving machinery — Machine-mounted audible travel alarms and forward horns — Test methods and performance criteria*

ISO 10263-4:2009, *Earth-moving machinery — Operator enclosure environment — Part 4: Heating, ventilating and air conditioning (HVAC) test method and performance*

ISO 11684:2023, *Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Safety labels — General principles*

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

ISO 13850:2015, *Safety of machinery — Emergency stop function — Principles for design*

ISO 16231-1:2013, *Self-propelled agricultural machinery — Assessment of stability — Part 1: Principles*

ISO 16231-2:2015, *Self-propelled agricultural machinery — Assessment of stability — Part 2: Determination of static stability and test procedures*

IEC 60529:1989+AMD1:1999+AMD2:2013, *CSV, Degrees of protection provided by enclosures (IP Code)*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4254-1:2013, ISO 4254-1:2013/AMD1:2021, ISO 12100:2010 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

#### 3.1

##### **grape harvester**

##### **olive harvester**

mobile harvesting machine for picking up grape berries or olives, separating, cleaning and conveying them into a tank which is part of the harvester, or into an external tank, and depositing harvest residue onto the ground

#### 3.2

##### **coffee harvester**

mobile harvesting machine for picking up coffee cherries (or drupes), separating, cleaning and conveying them into a tank and depositing harvest residue onto the ground

#### 3.3

##### **shaker**

device of the harvester which removes the fruits from the tree by contact and vibration on the branches

#### 3.4

##### **conveyor**

device or combination of devices of the harvester which transfer the harvested product through the sections of the machine until unloading it



**3.5**

**extractor  
blower**

device or combination of devices of the harvester which separate the fruits from leaves and branches

**3.6**

**destemmer**

device or combination of devices of the harvester which separate the stems or branches from the individual fruits

**3.7**

**auger**

device of the harvester which spreads the fruits in the *storage tank* (3.10) or to transfer the fruit from one *conveyor* (3.4) to another conveyor or tank

**3.8**

**separating system**

device or combination of devices of the harvester which separate residual material from the fruits

**3.9**

**discharge conveyor**

device of the harvester which brings fruits to an external tank, trailer or to the *storage tank* (3.10)

**3.10**

**storage tank**

section of the harvester dedicated to temporarily store the harvested product

**3.11**

**storage tank discharge conveyor**

*conveyor* (3.4) whose function is to discharge the harvested product to an external tank or trailer

**3.12**

**remote control**

**remote operator control**

operator control of a harvester by wireless or wired transmission of signals from a remote-control box not located inside the driving operator's station of the harvester to a receiving unit located on the harvester, with a range limited to 5 m and dedicated to cleaning and/or maintenance operations

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Note 1 to entry: in addition to cleaning and maintenance operations, door opening is an example of possible functions controlled remotely.

## **4 Safety requirements and/or protective/risk reduction measures**

### **4.1 General**

#### **4.1.1 Applicable general standards**

Machinery shall comply with the safety requirements and/or protective/risk reduction measures of this clause.

In addition, the machine shall be designed according to the principles of ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

#### **4.1.2 Applicable standards for agricultural machines**

Except where otherwise specified in this document, the machine shall be in accordance with ISO 4254-1:2013 and ISO 4254-1:2013/AMD1:2021.

#### **4.1.3 Lighting**

Forward-facing and rearward-facing work lights for use in the field shall be provided.

The forward-facing lights shall at minimum illuminate the area defined by ISO 5721-1:2013, 3.6.

The rearward-facing lights shall, at minimum, illuminate an area which, viewing the harvester from the top, is limited by two lines parallel to the median longitudinal axis of the harvester and tangential to its lateral outer limits, and by two lines perpendicular to the median longitudinal axis of the harvester, one tangential to its rear outer limits and the second at 3 m from its rear outer limits.

Emergency stops shall be illuminated, by dedicated separate lights or by an integrated illumination system.

#### 4.1.4 Extractor (blower)

A visual indicator, located on the extractor, shall be automatically activated when power to the extractor is shut off and remain visible until motion is completely stopped.

If there is no possibility of accidental contact with moving parts, the requirement does not apply.

#### 4.1.5 Cleaning the harvester

##### 4.1.5.1 Instructions

Instructions for safe cleaning of the machine elements shall be provided in the operator's manual. These elements include: shaker, destemmer, auger, separating system, discharge conveyor, storage tank, and storage tank discharge conveyor.

##### 4.1.5.2 Cleaning mode

A specific cleaning mode shall be provided for the machine.

The cleaning mode shall be activated from the driving operator's station. Activation shall be intentional and acknowledged by the operator. The acknowledging shall lock the cleaning mode as active until reset (for example, power shut-off) or the activation and acknowledgment of a different mode is performed.

The cleaning functions shall be active only when the cleaning mode for the machine is selected. The cleaning functions can be provided either as a dedicated control(s) or by remote control.

The performance level of the safety function associated with the cleaning mode shall be determined according to ISO 4254-1:2013, 4.20 and ISO 4254-1:2013/AMD1:2021.

An emergency stop device for the machine conforming to ISO 13850:2015 shall be provided on each side of the longitudinal median plane of the machine, accessible from the ground, close to the separate control(s) and on the remote control, if provided.

Any emergency-stop controls on the machine shall remain active at all times, independently from the control mode or station in use (for example, cleaning mode and/or remote control).

The performance level of the emergency stop safety function shall be determined according to ISO 4254-1:2013, 4.20 and ISO 4254-1:2013/AMD1:2021.

##### 4.1.5.3 Activation of machine elements during cleaning mode

For self-propelled machines, when the cleaning mode is activated, the machine propulsion functions shall be inactivated. It shall be possible for the operator to leave the seat without interrupting the cleaning operations (see [4.2.7](#)).

In the cleaning mode, the moving working elements may be operated, but their operating speed shall not exceed 50 % of the nominal working speed.

For cleaning purposes, it shall be possible to operate only individual machine elements.

If integrated cleaning equipment (for example, pump unit, nozzles) is supplied, their control shall be activated from the driving operator's station, the separate control(s) or the remote control.