



BSI Standards Publication

Agricultural machinery - Safety

Part 11: Pick-up balers

National foreword

This British Standard is the UK implementation of EN ISO 4254-11:2010+A1:2020. It is identical to ISO 4254-11:2010+A1:2020. It supersedes BS EN ISO 4254-11:2010, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment A1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee AGE/32, Agricultural implements and trailers.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

© The British Standards Institution 2020
Published by BSI Standards Limited 2020

ISBN 978 0 539 13832 0

ICS 65.060.50

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 January 2011.

Amendments/corrigenda issued since publication

Date	Text affected
31 March 2020	Implementation of ISO amendment A1:2020
31 May 2020	Implementation of CEN correction notice 08 April 2020: Annex ZA updated

ICS 65.060.50

English Version

Agricultural machinery — Safety — Part 11: Pick-up balers (ISO 4254-11:2010)

Matériel agricole — Sécurité — Partie 11:
Ramasseusespresses (ISO 4254-11:2010)

Landmaschinen — Sicherheit — Teil 11:
Sammelpressen ISO 4254-11:2010)

This European Standard was approved by CEN on 14 December 2010.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

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



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European Foreword

This document (EN ISO 4254-11:2010) has been prepared by Technical Committee ISO/TC 23 “Tractors and machinery for agriculture and forestry” in collaboration with 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 June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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 supersedes EN 704:1999+A1:2009.

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 the Machinery Directive 2006/42/EC. It is intended to be used together with EN ISO 4254-1:2009, *Agricultural machinery Safety Part 1: General requirements (ISO 4254-1:2008)*, and EN 15811:2009, *Agricultural machinery Guards for moving parts of power transmission Guard opening with tool (ISO/TS 28923:2007 modified)*.

For relationship with EU Directive, see informative [Annex ZA](#), which is an integral part of this document.

The following major changes were introduced:

- deletion of the reference to prEN 1553:1998, *Agricultural machinery Agricultural self-propelled, mounted, semi-mounted and trailed machines Common safety requirements*, and replacement with EN ISO 4254-1:2009, *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 15811:2009, *Agricultural machinery Guards for moving parts of power transmission Guard opening with tool (ISO/TS 28923:2007 modified)*;
- inclusion in the Scope of combination of pick-up balers with wrappers (and new requirements from 5.2.7 to 5.2.7.2.4);
- new requirements for feeding elements designed as augers (5.2.3.1, second sentence, and new 5.2.3.2);
- new requirements on automatic starting systems (5.2.4);
- new requirements on manual feeding of twine (5.2.5);
- new requirements on changing of knives (5.2.6);
- modification on requirements against hazards related to clearing blockages (5.4.1.1 and 5.4.1.2);
- new requirements on bale ejection door (5.4.2.1 second sentence and 5.4.2.2).

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, Croatia, 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 4254-11:2010 has been approved by CEN as a EN ISO 4254-11:2010 without any modification.

Foreword to A1

This document (EN ISO 4254-11:2010/A1:2020) has been prepared by Technical Committee ISO/TC 23 "Tractors and machinery for agriculture and forestry" in collaboration with Technical Committee CEN/TC 144 "Tractors and machinery for agriculture and forestry" the secretariat of which is held by AFNOR.

This Amendment to the European Standard EN ISO 4254-11:2010 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2020, and conflicting national standards shall be withdrawn at the latest by August 2021.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN 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(s).

For the relationship with EU Directive(s) see informative [Annex ZA](#), which is an integral part of this document.

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, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 4254-11:2010/Amd 1:2020 has been approved by CEN as EN ISO 4254-11:2010/A1:2020 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 Commission's standardization request "M/396 Mandate to CEN and CENELEC for Standardisation in field of machinery "to provide one voluntary means of conforming to Essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2016 on machinery, and amending Directive 95/16/EC (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive, and associated EFTA regulations.

**Table ZA.1 — Correspondence between this European Standard and Annex I of
EU Directive 2006/42/EC**

The relevant Essential Requirements of EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes ¹⁾
1.1.2. Principles of safety integration	1; 5.1; 5.4.1; 7.1; 7.2	
1.1.3. Materials and products	5.1; 5.2; 5.3; 5.4; 7.1; 7.2	
1.1.4. Lighting		not covered
1.1.7. Operating positions		not covered
1.1.8. Seating		not covered (only for self-propelled machines)
1.2.1. Safety and reliability of control systems		not covered
1.2.2. Control devices	5.2.4.2; 5.2.7.1; 5.3.4.6; 5.4.2; 5.4.3; 6; 7.1; 7.2.3.3	
1.2.4. Stopping		not covered
1.2.5. Selection of control or operating modes	7.1; 7.2.3	
1.2.5. Selection of control or operating modes	5.1; 7.1	
1.2.6. Failure of the power supply	5.2.4; 5.4.2; 5.4.3; 5.4.4; 5.4.5	
1.3. Protection against mechanical hazards	5.1; 5.2; 5.3; 5.4; 7.1; 7.2	
1.3.1. Risk of loss of stability	7.1.4	

1.3.2. Risk of break-up during operation	7.1	
1.3.3. Risks due to falling or ejected objects	5.3.6; 5.4.5	
1.3.4. Risks due to surfaces, edges or angles	5.1; 5.2; 5.3; 5.4; 7.1; 7.2	
1.3.8.1. Moving transmission parts		not covered
1.4.2.1. Fixed guards		not covered (2nd paragraph)
1.5.4. Errors of fitting	7.1; 7.2	
1.5.5. Extreme temperatures		not covered (only for self-propelled machines)
1.5.6. Fire	7.1	
1.5.8. Noise		not covered
1.5.9. Vibrations		not covered
1.6.2. Access to operating positions and servicing points	7.1; 7.2	
1.6.3. Isolation of energy sources	5.2.7.1; 5.2.7.2; 5.3.1; 5.3.3; 5.3.4.6	
1.7. Information	7.2	
1.7.2. Warning of residual risks	7.2.3	
1.7.3. Marking of machinery	7.2	
1.7.4.1. General principles for the drafting of instructions	7.1	
1.7.4.2. Contents of the instructions	7.1	
1.7.4.2. u) Information on airborne noise emissions		not covered
3.3.2. Starting/moving		not covered
3.3.3. Travelling function		not dealt with
3.4.3. Roll-over and tip-over		not covered
3.4.6. Towing devices	7.1	
3.6.3.1. Vibrations		not covered
¹⁾ Compliance with EN ISO 4254-11 and the relevant requirements of EN ISO 4254-1:2015 is necessary to achieve presumption of conformity with the essential requirements of EU Directive 2006/42/EC aimed to be covered. For relevant requirements of EN ISO 4254-1 see Table 1, List of significant hazards, of this standard.		

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

Contents

Page

Foreword	vii
Introduction	viii
1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 List of significant hazards	2
5 Safety requirements and/or protective measures	4
5.1 General	4
5.2 Requirements for all types of balers	5
5.2.1 Drawbar	5
5.2.2 Pick-up device	5
5.2.3 Feeding elements	7
5.2.4 Automatic starting systems	9
5.2.5 Manual feeding of twine	10
5.2.6 Changing of knives	10
5.2.7 Pick-up balers with wrappers	10
5.3 Requirements for rectangular balers	10
5.3.1 Flywheel	10
5.3.2 Driving mechanism for the plunger	11
5.3.3 Transmission parts of feeding elements	12
5.3.4 Knotter and tying mechanism	13
5.3.5 Bale thrower	14
5.3.6 Retaining device	14
5.4 Requirements for round balers	14
5.4.1 General	14
5.4.2 Protective measures in case of blockage of crop flow with mechanical elements moving	14
5.4.3 Protective measures against inadvertent re-engagement in case of mechanical elements stopped by blockage	18
5.4.4 Reversing mechanism	19
5.4.5 Bale ejection door — Rear tailgate	19
5.4.6 Insertion of binding material	20
6 Verification of the safety requirements and/or protective measures	20
7 Information for use	20
7.1 Operator's manual	20
7.2 Marking	21
7.2.1 General	21
7.2.2 Instructional signs	21
7.2.3 Safety signs	21
Bibliography	23

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 4254-11 was prepared by Technical Committee ISO/TC 23, *Tractors and machinery for agriculture and forestry*, Subcommittee SC 7, *Equipment for harvesting and conservation*.

For the purposes of global relevance, the requirements related to the guarding of moving parts for power transmission have been transferred and published as two separate Technical Specifications: ISO/TS 28923:2007 (Guard opening with tool) and ISO/TS 28924:2007, which include the requirements taken from both 4.6 and Annex C of ISO 4254-1:2008.

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 disc and drum mowers and flail mowers*
- *Part 13: Large rotary mowers* ¹⁾

Part 2, *Anhydrous ammonia applicators*, has been withdrawn; Part 3, *Tractors*, has been cancelled and is to be 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*.

1) Under preparation.

Introduction

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

- a) type-A standards (basic standards) giving basic concepts, principles for design, and general aspects that can be applied to machinery;
- b) type-B standards (generic safety standards) dealing 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-hand controls, interlocking devices, pressure-sensitive devices, guards);
- c) Type-C standards (machinery safety standards) dealing with detailed safety requirements for a particular machine or group of machines.

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

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this part of ISO 4254. These hazards are specific to self-propelled and trailed pick-up balers, including the combination of pick-up balers with wrappers.

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.

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