BS EN ISO 4254-1:2015+A1:2021

BSI Standards Publication

Agricultural machinery - Safety

Part 1: General requirements

Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

National foreword

This British Standard is the UK implementation of EN ISO 4254-1:2015+A1:2021. It is identical to ISO 4254-1:2013, incorporating amendment 1:2021. It supersedes BS EN ISO 4254-1:2015, which is withdrawn.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 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted to Technical Committee AGE/6, Agricultural tractors and forestry machinery.

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

This publication has been prepared under a mandate given to the European Standards Organizations by the European Commission and the European Free Trade Association. It is intended to support requirements of the EU legislation detailed in the European Foreword. A European Annex, usually Annex ZA or ZZ, describes how this publication relates to that EU legislation.

For the Great Britain market (England, Scotland and Wales), if UK Government has designated this publication for conformity with UKCA marking (or similar) legislation, it may contain an additional National Annex. Where such a National Annex exists, it shows the correlation between this publication and the relevant UK legislation. If there is no National Annex of this kind, the relevant Annex ZA or ZZ in the body of the European text will indicate the relationship to UK regulation applicable in Great Britain. References to EU legislation may need to be read in accordance with the UK designation and the applicable UK law. Further information on designated standards can be found at www.bsigroup.com/standardsandregulation.

For the Northern Ireland market, UK law will continue to implement relevant EU law subject to periodic confirmation. Therefore Annex ZA/ZZ in the European text, and references to EU legislation, are still valid for this market.

UK Government is responsible for legislation. For information on legislation and policies relating to that legislation, consult the relevant pages of www.gov.uk.

Contractual and legal considerations

This publication has been prepared in good faith, however no representation, warranty, assurance or undertaking (express or implied) is or will be made, and no responsibility or liability is or will be accepted by BSI in relation to the adequacy, accuracy, completeness or reasonableness of this publication. All and any such responsibility and liability is expressly disclaimed to the full extent permitted by the law.

This publication is provided as is, and is to be used at the recipient's own risk.

The recipient is advised to consider seeking professional guidance with respect to its use of this publication.

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

This publication is not intended to constitute a contract. Users are responsible for its correct application.

© The British Standards Institution 2022
Published by BSI Standards Limited 2022

ISBN 978 0 539 04080 7

ICS 65.060.01

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 30 November 2015.

Amendments/corrigenda issued since publication

Date	Text affected
31 March 2022	Implementation of amendment 1:2021 to ISO 4254-1:2013 with CEN endorsement A1:2021

Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4254-1:2015+A1

December 2021

ICS 65.060.01

Supersedes EN ISO 4254-1:2013

English Version

Agricultural machinery - Safety - Part 1: General requirements (ISO 4254-1:2013)

Matériel agricole - Sécurité - Partie 1: Exigences générales (ISO 4254-1:2013)

Landmaschinen - Sicherheit - Teil 1: Generelle Anforderungen (ISO 4254-1:2013)

This European Standard was approved by CEN on 27 September 2015.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

© 2015 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN ISO 4254-1:2015 E

Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

European foreword

The text of ISO 4254-1:2013 has been prepared by Technical Committee ISO/TC 23 “Tractors and machinery for agriculture and forestry” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4254-1:2015 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 April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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 ISO 4254-1:2013.

This 4th edition cancels and replaces the third edition (EN ISO 4254-1:2013) where the following changes were introduced (compared to EN ISO 4254-1:2009):

— requirements related the protection from moving parts involved in the work have been added in 4.2;

— requirements related to vibration have been added in 4.3;

— requirements related to automatic mode of operation have been added in 4.6;

— requirements related to foldable barriers have been added in 4.9;

— requirements related to operating fluids have been added in 4.15;

— requirements related to emergency stop controls have been added in 4.19;

— requirements related to safety related parts of control systems have been added in 4.20;

— requirements related to roll-over and tip-over hazards have been added in 5.7;

— requirements related to PTO drive shaft guard clearance have been added in 6.4.

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 15811: 2014 "Agricultural machinery – Fixed guards and interlocked guards with or without guard locking for moving transmission parts (ISO/TS 28923: 2012 modified)".

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

Endorsement notice

The text of ISO 4254-1:2013 has been approved by CEN as EN ISO 4254-1:2015 without any modification.

European foreword to amendment A1

This document (EN ISO 4254-1:2015/A1:2021) 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 4254-1:2015 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2022, and conflicting national standards shall be withdrawn at the latest by June 2022.

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 Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

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

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN websites.

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 4254-1:2013/Amd 1:2021 has been approved by CEN as EN ISO 4254-1:2015/A1:2021 without any modification.

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of Directive 2006/42/EC Machinery aimed to be covered

This European Standard has been prepared under a Commission's Standardization Request "M/396 mandate to CEN and CENELEC for standardisation in the 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 2006 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 Directive 2006/42/EC

The relevant Essential Requirements of Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS		
1.1.2. (a)	4.1; 4.2;	
1.1.2. (c)	4, 5, 6, 7, 8	
1.1.2. (d)	4, 5, 6, 7, 8	
1.1.2. (e)	4, 5, 6, 7, 8	
1.1.3. Materials and products	4.1; 4.10; 4.12.1; 4.13.1; 4.14; 5.1.6; 5.4.2; Annex C	
1.1.5. Design of machinery to facilitate its handling	4.5; 4.7; 4.8; 4.9; 4.11; 4.15; 4.16; 4.17; 4.19; 5.1; 5.2; 5.3; 5.5; 5.6; 5.7; 6.1; 6.2; 6.3; 6.4; 8	
1.1.6. Ergonomics	4.5; 4.7; 4.8; 4.9; 4.15; 4.17; 5.1; 6.1	
1.1.7. Operating positions	4.7; 4.8; 5.1	
1.1.8. Seating	4.7.3; 5.1.2	
1.2. CONTROL SYSTEMS		
1.2.1. Safety and reliability of control systems	4.5; 4.6; 4.12; 4.13; 4.14; 4.18; 4.19; 4.20	
1.2.2. Control devices	4.5; 4.6; 4.19; 5.1.3; 5.1.8; 6.1	
1.2.3. Starting	4.6; 5.1.8	
1.2.4. Stopping	4.6; 5.1.8; 6.1.1	

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

1.2.4.1. Normal stop	5.1.8; 6.1.1	
1.2.4.2. Operational stop	4.6;	
1.2.4.3. Emergency stop	4.19	
1.2.5. Selection of control or operating modes	4.6; 5.1.3.2	
1.2.6. Failure of the power supply	4.6; 4.20	
1.3. PROTECTION AGAINST MECHANICAL HAZARDS		
1.3.1. Risk of loss of stability	4.11.2; 5.2.3; 5.7; 6.2; 8.2; 8.4	
1.3.2. Risk of break-up during operation	4.10; 4.11; 4.13; 4.14	
1.3.3. Risks due to falling or ejected objects	4.11; 4.13; 4.9.2; 4.9.3	
1.3.4. Risks due to surfaces, edges or angles	4.1; 5.5	
1.3.6. Risks related to variations in operating conditions	4.6	
1.3.7. Risks related to moving parts	4.2; 4.7.1.1.2; 4.8.3.2; 4.9; 4.10; 4.11; 4.17; 4.19; 4.20; 5.1.3; 5.1.4; 5.1.8; 6.4	
1.3.8. Choice of protection against risks arising from moving parts	6.4	
1.3.8.2. Moving parts involved in the process	4.2; 4.10	
1.3.9. Risks of uncontrolled movements	4.6; 4.9; 4.11; 4.17; 4.20; 5.1.8; 6.2	
1.4. REQUIRED CHARACTERISTICS OF GUARDS AND PROTECTIVE DEVICES		
1.4.1. General requirements	4.1.3; 4.2; 4.10; 6.4	
1.4.2.1. Fixed guards	4.1.3; 4.2; 4.7.1.1.2; 4.8.3.4; 4.13.2; 4.17.3; 6.4; 8.2	
1.4.2.2. Interlocking movable guards	4.1.3; 8.2	
1.4.2.3. Adjustable guards restricting access	4.1.3; 8.2	
1.4.3. Special requirements for protective devices	4.1.3; 4.2; 4.9.3; 6.4; 8.2	
1.5. RISKS DUE TO OTHER HAZARDS		
1.5.1. Electricity supply	4.12; 5.3	
1.5.3. Energy supply other than electricity	4.13; 4.14; 6.4	

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

1.5.4. Errors of fitting	5.2; 6.3; 8	
1.5.5. Extreme temperatures	5.5	
1.5.6. Fire	4.1; 5.1.6; 5.4	
1.5.8. Noise	4.3	
1.5.9. Vibrations	4.4	
1.5.10. Radiation	4.18	
1.5.11. External radiation		Not covered
1.5.13. Emissions of hazardous materials and substances	4.13; 4.15; 5.1.6; 5.3.1; 5.4; 5.6	
1.5.14. Risk of being trapped in a machine	5.1.5	
1.5.15. Risk of slipping, tripping or falling	4.7; 4.8;	
1.6. MAINTENANCE		
1.6.1. Machinery maintenance	4.8; 4.11; 4.15; 4.17; 8.1	
1.6.2. Access to operating positions and servicing points	4.8; 4.11; 4.15; 4.17	
1.6.3. Isolation of energy sources	5.3.2	
1.6.4. Operator intervention	4.1; 4.8; 4.11; 4.15; 4.17	
1.7. INFORMATION		
1.7.1. Information and warnings on the machinery	8	
1.7.1.1. Information and information devices	8	
1.7.1.2. Warning devices	8.3.4	
1.7.2. Warning of residual risks	8.2; 8.3	
1.7.3. Marking of machinery	8.4	
1.7.4. Instructions		
1.7.4.1. General principles for the drafting of instructions	8.2	
1.7.4.2. Contents of the instructions	8.2	
3. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO THE MOBILITY OF MACHINERY		
3.1. GENERAL	4.1	
3.2. WORK POSITIONS		

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

3.2.1. Driving positions	4.7; 5.1	Excluding the second sentence, concerning devices to remedy inadequate direct vision.
3.2.2. Seating	5.1.2	
3.2.3. Positions for other persons	4.7.3	
3.3. CONTROL SYSTEMS	4.20; 5.1.8.1	
3.3.1. Control devices	4.5; 4.6; 4.19; 4.20; 5.1.2.2; 5.1.3; 5.1.8; 6.1	
3.3.2. Starting/moving	5.1.3; 5.1.8; 6.2.1.2	
3.3.3. Travelling function	5.1.8	
3.3.5. Control circuit failure	5.1.3	
3.4. PROTECTION AGAINST MECHANICAL HAZARDS		
3.4.1. Uncontrolled movements	4.9; 5.5.2	
3.4.2. Moving transmission parts	5.1.8.1	
3.4.3. Roll-over and tip-over	5.7	
3.4.5. Means of access	4.7; 4.8; 5.1	
3.4.6. Towing devices	6.2.2; 6.3	
3.4.7. Transmission of power between self-propelled machinery (or tractor) and recipient machinery	6.4	
3.5. PROTECTION AGAINST OTHER HAZARDS		
3.5.1. Batteries	5.3	
3.5.2. Fire	4.1; 4.12; 5.1.6; 5.4	
3.6. INFORMATION AND INDICATIONS		
3.6.1. Signs, signals and warnings	8.3	
3.6.2. Marking	8.3; 8.4	
3.6.3. Instructions	8.2	
3.6.3.1. Vibrations	8.2	
3.6.3.2. Multiple uses	8.2	

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.

AVA Documents
Document Sharing Hub

Full document details: BS EN ISO 4254-1:2015+A1:2021

Documents
Document Sharing Hub

This page deliberately left blank

Full document details: BS EN ISO 4254-1:2015+A1:2021

Contents

Page

Foreword ... **v**

Introduction ... **vii**

1 Scope ... **1**

2 Normative references ... **1**

3 Terms and definitions ... **3**

4 Safety requirements and/or measures applicable to all machines ... **5**
4.1 Fundamental principles, design guidance ... 5
4.2 Protection from moving parts involved in the work ... 5
4.3 Noise ... 5
4.4 Vibration ... 6
4.5 Controls ... 6
4.6 Automatic mode of operation ... 7
4.7 Operator stations ... 7
4.8 Other than operator stations ... 10
4.9 Folding elements ... 12
4.10 Strength requirements for guards and barriers ... 12
4.11 Supports for service and maintenance ... 12
4.12 Electric equipment ... 13
4.13 Hydraulic components and fittings ... 13
4.14 Pneumatic systems ... 13
4.15 Operating fluids ... 13
4.16 Manual operation of individual assemblies ... 14
4.17 Service and handling of machine parts ... 14
4.18 Electromagnetic compatibility ... 14
4.19 Emergency stop ... 14
4.20 Safety-related parts of control systems ... 15

5 Safety requirements and/or measures — Self-propelled ride-on machines ... **15**
5.1 Operator station ... 15
5.2 Moving the machine ... 18
5.3 Electric ... 19
5.4 Fuel tank ... 19
5.5 Hot surfaces ... 19
5.6 Exhaust gases ... 19
5.7 Roll- and tip-over ... 19

6 Safety requirements and/or measures — Mounted, semi-mounted and trailed machines ... **20**
6.1 Controls ... 20
6.2 Stability ... 20
6.3 Hitches for towing ... 21
6.4 Transmission of mechanical power between self-propelled machines/tractors and recipient machinery ... 21
6.5 Hydraulic, pneumatic and electrical connections with a self-propelled machine or towing vehicle ... 22

7 Verification of safety requirements or protective measures ... **22**

8 Information for use ... **23**
8.1 General ... 23
8.2 Operator's manual ... 23
8.3 Safety and instructional signs ... 24
8.4 Marking ... 25

Annex A (informative) **List of significant hazards** ... **26**

Annex B (normative) **Noise test code (engineering method grade 2)** ... **30**

Documents
Document Sharing Hub

© ISO 2021 – All rights reserved

Full document details: BS EN ISO 4254-1:2015+A1:2021

Annex C (normative) **Strength tests** **34**

Annex D (informative) **Stability of tractor machine combinations** **36**

A1 **Annex E** (informative) **Guidance for risk assessment and determination of performance levels for safety-related parts of control systems** **38** A1

Bibliography **40**

© ISO 2021 – All rights reserved
Documents
Document Sharing Hub
Full document details: BS EN ISO 4254-1:2015+A1:2021

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 documents 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).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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.

This document was prepared by Technical Committee ISO/TC 23, Tractors and machinery for agriculture and forestry, Subcommittee SC 3, Safety and comfort, in collaboration with 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.

© ISO 2021 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS EN ISO 4254-1:2015+A1:2021

Introduction

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

The machinery concerned and the extent to which hazards, hazardous situations and 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 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 requirements of this type-C standard.

© ISO 2021 – All rights reserved

Documents
Document Sharing Hub
Full document details: BS EN ISO 4254-1:2015+A1:2021

Agricultural machinery — Safety —

Part 1: General requirements

1 Scope

This part of ISO 4254 specifies the safety requirements and the means of their verification for the design and construction of self-propelled ride-on machines, mounted, semi-mounted and trailed machines used in agriculture in order to deal with the hazards which are typical for most of the machines. In addition, it specifies the type of information on safe working practices including information about residual risks to be provided by the manufacturer.

This document deals with significant hazards, hazardous situations and events, as listed in Annex A, relevant to this agricultural machinery when used as intended and under the conditions of misuse foreseeable by the manufacturer during normal operation and service.

This part of ISO 4254 is not applicable to

— agricultural or forestry tractors,

— aircraft and air-cushion vehicles used in agriculture,

— lawn and garden equipment,

— machine-specific components or functions (e.g. working tools and/or processes).

〈A1〉 — machine-specific performance levels (PL or AgPL).

NOTE Machine-specific standards can give the required PL or AgPL. 〈A1〉

This part of ISO 4254 is not applicable to hazards related to periodic service, machine conversion and repairs intended to be carried out by professional service personnel, environmental hazards, road safety (e.g. steering, braking), or to the power take-off (PTO) drive shaft; neither is it applicable to guards of moving parts for power transmission except for strength requirements for guards and barriers.

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

Not all of the hazards dealt with by this part of ISO 4254 are necessarily present on a particular machine. A risk assessment should be carried out by the manufacturer to determine the hazards that are applicable and any hazards in addition to those dealt with by this part or a relevant machine-specific part. The requirements of a machine-specific part of ISO 4254 take precedence over the requirements of this part.

2 Normative references

The following referenced documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

〈A1〉ISO 3600:2015〈A1〉, Tractors, machinery for agriculture and forestry, powered lawn and garden equipment — Operator's manuals — Content and presentation

© ISO 2021 – All rights reserved

Documents Document Sharing Hub
Full document details: BS EN ISO 4254-1:2015+A1:2021

ISO 3744:2010, *Acoustics — Determination of sound power levels and sound energy levels of noise sources using sound pressure — Engineering methods for an essentially free field over a reflecting plane*

ISO 3767-1:1998, T*ractors, machinery for agriculture and forestry, powered lawn and garden equipment — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 3767-2:2008, T*ractors, 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,T*ractors and machinery for agriculture —Seat belts—Part1:Anchorage location requirements ISO* 3776-2:2013,T*ractors and machinery for agriculture —Seat belts —Part2:Anchorage strength requirements ISO 3776-3:2009,* T*ractors and machinery for agriculture — Seat belts— Part3:Requirements for* assemblies

ISO 3795:1989, *Road vehicles, and tractors and machinery for agriculture and forestry — Determination of* burning behaviour of interior materials

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

ISO 4413:2010,*Hydraulic fluid power —General rules and safety requirements for systems and* their components

ISO 4414:2010,*Pneumatic fluid power — General rules and safety requirements for systems and* their components

ISO 5008:2002, *Agricultural wheeled tractors and field machinery — Measurement of whole-body vibration* of the operator

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

〚A1〛ISO 9533:2010, Earth-moving machinery — Machine-mounted audible travel alarms and f*orward horns — Test methods and performance criteria*〚A1〛

ISO 10975:2009, T*ractors and machinery for agriculture — Auto-guidance systems for operator-controlled tractors and self-propelled machines — Safety requirements*

ISO 11201:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions in an essentially free field over a reflecting plane with negligible environmental corrections*

ISO 11204:2010, *Acoustics — Noise emitted by machinery and equipment — Determination of emission sound pressure levels at a work station and at other specified positions applying accurate environmental* corrections

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

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

〚A1〛ISO 13849-1:2015〚A1〛, *Safety of machinery — Safety-related parts of control systems — Part 1: General* principlesfor design

ISO 13849-2:2012, *Safety of machinery — Safety-related parts of control systems — Part 2: Validation*

〚A1〛ISO 13850:2015〚A1〛, *Safety of machinery — Emergency stop — Principles for design*

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

© ISO 2021 – All rights reserved
AVA Documents Document Sharing Hub
Full document details: BS EN ISO 4254-1:2015+A1:2021