



BSI Standards Publication

Agricultural machinery — Safety

Part 6: Sprayers and liquid fertilizer distributors

National foreword

This British Standard is the UK implementation of EN ISO 4254-6:2020+A11:2021. It is derived from ISO 4254-6:2020. It supersedes BS EN ISO 4254-6:2020, which is withdrawn.

BSI, as a member of CEN, is obliged to publish EN ISO 4254-6:2018 as a British Standard. However, attention is drawn to the fact that during the development of this European Standard, the UK committee voted against its approval as a European Standard.

The UK committee voted against EN ISO 4254-6:2018 because of concerns that it does not seek to improve safety. In particular, the committee is concerned that certain criteria introduced into the standard are unsuitable and do not cover many state-of-the-art systems available in the marketplace. The committee recommended changes to those clauses it considered to be inconsistent with the rest of the standard. Specifically, the committee is of the opinion that the wording of Clause 4.3.1 allows the design of sprayer booms that, although capable of folding and unfolding without exceeding a height of 4 m in some limited circumstances, do not do so normally or in a manner that users are able to replicate in typical use in the field, with the result that the booms will actually normally exceed 4 m. The clause does not sufficiently limit the risk of contact with overhead power lines, which in the UK may be as low as 5.2 metres, because machines can be designed to meet the requirements of the clause and the means of verification without being safe in normal use.

The UK committee also believes that the wording of Clause 4.3.1 is such that its application by manufacturers in this way does not ensure conformity with Essential Health and Safety Requirement 1.1.2 of Machinery Directive 2006/42/EC. This requires that machinery be designed and constructed so that it is fitted for its function; that it can be operated, adjusted and maintained without putting persons at risks; and that manufacturers follow (in order) the principles of safety integration, starting with elimination or reduction of risks, as far as possible, by inherently safe machinery design and construction.

The UK committee believes that the 'state of the art' in the design of large folding sprayer booms has been demonstrated by those manufacturers that have adopted horizontal folding boom designs that fold and unfold below 4 m in all normal work situations and which are therefore inherently safe in their design. Clause 4.3.1 does not reflect this.

The UK participation in its preparation was entrusted to Technical Committee AGE/15, Equipment for crop protection and application of liquid fertilizer.

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), the 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.

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Amendments/corrigenda issued since publication

Date	Text affected
31 October 2020	Correction to section reference numbers in national foreword
31 March 2022	Implementation of CEN amendment A11:2021: Annex ZA amended

English Version

Agricultural machinery - Safety - Part 6: Sprayers and liquid fertilizer distributors (ISO 4254-6:2020)

Matériel agricole - Sécurité - Partie 6: Pulvérisateurs et distributeurs d'engrais liquides (ISO 4254-6:2020)

Landmaschinen - Sicherheit - Teil 6: Pflanzenschutzgeräte (ISO 4254-6:2020)

This European Standard was approved by CEN on 16 February 2020.

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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.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 4254-6:2020) 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 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 November 2020, and conflicting national standards shall be withdrawn at the latest by May 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 supersedes EN ISO 4254-6:2009.

The main changes compared to the previous edition are as follows:

- some excluded hazards have been deleted from the scope as they are covered by ISO 4254-1 or this revised edition;
- the general (stability) requirements have been deleted as they are covered by ISO 4254-1;
- the protection of the operator against hazardous substances in case of front mounted booms has been removed as this risk is relevant to all types of sprayers but appropriate requirements (in form of an international reference standard) are not yet available; however, the protection of the driver against spray when spraying is dealt with by the harmonized European standard EN 15695 (Agricultural tractors and self-propelled sprayers - Protection of the operator (driver) against hazardous substances - Part 1: Cab classification, requirements and test procedures and Part 2: Filters, requirements and test procedures) which is listed in the EU Official Journal under the Machinery Directive 2006/42EU;
- in 4.6.2, the requirements for chemical inductions bowls have been amended to cover foldable devices;
- in 4.7, requirements for protecting the operator in case of leakages have been added;
- a new subclause (4.12) to deal with the storage of personal protective equipment has been added;
- Clause 6 has been aligned with ISO 4254-1.

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 4254-6:2020 has been approved by CEN as EN ISO 4254-6:2020 without any modification.

European foreword to amendment A11

This document (EN ISO 4254-6:2020/A11:2021) has been prepared by Technical Committee CEN/TC 144 “Tractors and machinery for agriculture and forestry” the secretariat of which is held by DIN.

This Amendment to the European Standard EN ISO 4254-6:2020 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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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) / Regulation(s), see informative Annex ZA, which is an integral part of this document.

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Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 2006/42/EC 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 EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2. Principles of safety integration		
1.1.2 a)	4,5,6	
1.1.2 c)	4,5,6	
1.1.2 d)	4,5,6	
1.1.2 e)	4,5,6	
1.1.3. Materials and products	4.5.2; 4.5.3; 4.5.4; 4.9; 4.11; 4.14	
1.1.4. Lighting		Not covered
1.1.5. Design of machinery to facilitate its handling	4.3; 4.4; 4.5; 4.10; 4.13; 4.14	
1.1.6. Ergonomics	4.4; 4.13	
1.1.7. Operating positions		Not covered
1.1.8. Seating		Not covered
1.2. CONTROL SYSTEMS		
1.2.1. Safety and reliability of control systems	4.4	
1.2.2. Control devices	4.3; 4.5.2.2; 4.5.4; 4.10	
1.2.3. Starting		Not covered
1.2.4. Stopping	4.10	Not covered
1.2.4.1. Normal stop	4.10	

The relevant Essential Requirements of EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.2.4.2. Operational stop		Not covered
1.2.4.4. Assembly of machinery		Not covered
1.2.5. Selection of control or operating modes		Not covered
1.2.6. Failure of the power supply	4.4.2	
1.3. PROTECTION AGAINST MECHANICAL HAZARDS		
1.3.1. Risk of loss of stability	4.2	
1.3.2. Risk of break-up during operation		Not covered
1.3.3. Risks due to falling or ejected objects		Not covered
1.3.4. Risks due to surfaces, edges or angles		Not covered
1.3.7. Risks related to moving parts	4.8	
1.5. RISKS DUE TO OTHER HAZARDS		
1.5.4. Errors of fitting	6	
1.5.5. Extreme temperatures		Not covered
1.5.8. Noise	4.15	
1.5.9. Vibrations		Not covered
1.5.13. Emissions of hazardous materials and substances	4.5; 4.7; 4.9; 4.11	
1.5.14. Risk of being trapped in a machine	4.5.1	
1.5.15. Risk of slipping, tripping or falling		Not covered
1.5.16. Lightning		Not covered
1.6. MAINTENANCE		
1.6.1. Machinery maintenance	4.14	
1.6.2. Access to operating positions and servicing points		Not covered
1.6.3. Isolation of energy sources		Not covered
1.6.4. Operator intervention		Not covered

The relevant Essential Requirements of EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.6.5. Cleaning of internal parts		Not covered
1.7. INFORMATION		
1.7.1. Information and warnings on the machinery	6	
1.7.1.1. Information and information devices	6	
1.7.1.2. Warning devices	6	
1.7.2. Warning of residual risks	6	
1.7.3. Marking of machinery	6.2	
1.7.4. Instructions	6	
1.7.4.1. General principles for the drafting of instructions	6	
1.7.4.2. Contents of the instructions	6	
1.7.4.2. u)		Not covered
1.7.4.3. Sales literature		Not covered
2.4. MACHINERY FOR PESTICIDE APPLICATION		
2.4.2. General	4.5.3; 4.5.4; 4.7; 4.9; 4.10	
2.4.3. Controls and monitoring	4.3; 4.4.2; 4.6; 4.10	
2.4.4. Filling and emptying	4.5.3; 4.5.4	
2.4.5.4. Losses during stoppage	4.10	
2.4.6. Maintenance	4.14	
3. SUPPLEMENTARY ESSENTIAL HEALTH AND SAFETY REQUIREMENTS TO OFFSET HAZARDS DUE TO THE MOBILITY OF MACHINERY		
3.2. WORK POSITIONS		
3.2.1. Driving positions		Not covered
3.2.2. Seating		Not covered
3.2.3. Positions for other persons		Not covered
3.3. CONTROL SYSTEMS		
3.3.1. Control devices		Not covered
3.3.2. Starting/moving		Not covered

The relevant Essential Requirements of EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
3.3.3. Travelling function		Not covered
3.3.5. Control circuit failure		Not covered
3.4. PROTECTION AGAINST MECHANICAL HAZARDS		
3.4.1. Uncontrolled movements		Not covered
3.4.2. Moving transmission parts		Not covered
3.4.5. Means of access		Not covered
3.4.6. Towing devices		Not covered
3.4.7. Transmission of power between self-propelled machinery (or tractor) and recipient machinery		Not covered
3.5. PROTECTION AGAINST OTHER HAZARDS		
3.5.1. Batteries		Not covered
3.5.2. Fire		Not covered
3.5.3. Emissions of hazardous substances		Not covered
3.6. INFORMATION AND INDICATIONS		
3.6.1. Signs, signals and warnings	6	
3.6.2. Marking	6	
3.6.3. Instructions	6	
3.6.3.1. Vibrations	4.1	Not covered
3.6.3.2. Multiple uses	6	

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.