



BSI Standards Publication

**Tractors and machinery for agriculture
and forestry — Guards for power take-
off (PTO) drive-shafts — Strength and
wear tests and acceptance criteria**

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN ISO 5674:2025. It is identical to ISO 5674:2024. It supersedes BS EN ISO 5674:2009, which is withdrawn.

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.

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.

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

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.

© The British Standards Institution 2025
Published by BSI Standards Limited 2025

ISBN 978 0 539 12665 5

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

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 2025.

Amendments/corrigenda issued since publication

Date

Text affected

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

EUROPÄISCHE NORM

November 2025

ICS 65.060.01

Supersedes EN ISO 5674:2009

English Version

Tractors and machinery for agriculture and forestry - Guards for power take-off (PTO) drive-shafts - Strength and wear tests and acceptance criteria (ISO 5674:2024)

Tracteurs et matériels agricoles et forestiers -
Protecteurs d'arbres de transmission à cardans de
prise de force (p.d.f) - Essais de résistance mécanique
et d'usure et critères d'acceptation (ISO 5674:2024)

Traktoren und land- und forstwirtschaftliche
Maschinen - Schutzeinrichtungen für Gelenkwellen -
Festigkeits- und Verschleißprüfungen und
Annahmekriterien (ISO 5674:2024)

This European Standard was approved by CEN on 20 December 2024.

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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye 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

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

European foreword

This document (EN ISO 5674:2025) 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 May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.

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 5674:2009.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, 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 website.

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, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 5674:2024 has been approved by CEN as EN ISO 5674:2025 without any modification.

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

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 Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2.a)	4; 5; 6; 7; Annex A, Annex B	
1.1.2.c)	4; 5; 6; 7; Annex A, Annex B	
1.1.3	5.2.2; 5.2.3; 6.3; 6.5	
1.3.2	4; 6; 7; 8; Annex A, Annex B	
1.3.3	4; 6; 7; 8; Annex A, Annex B	
1.3.6	5.1	
1.3.7	4; 6	
1.3.8.2	6	
1.4.1	4; 5; 6; 7; Annex A, Annex B	
1.5.11	4.1; 5.2.1; Annex A; Annex B	
1.7.1	8	
1.7.4.2 s)	4.1.3; 5.1.1; 6.2.1; 6.4.3; 6.4.4	
3.4.7	4; 5; 6; 7; 8; Annex A, Annex B	

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.

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General test conditions	2
4.1 Guard.....	2
4.2 Other conditions.....	2
5 Test equipment	2
5.1 General.....	2
5.2 Test parameters.....	3
5.2.1 Measuring accuracy.....	3
5.2.2 Potable and salt water.....	3
5.2.3 Test dust.....	3
6 Tests	4
6.1 General.....	4
6.2 Wear test.....	4
6.3 Bearing corrosion test.....	4
6.4 Strength tests.....	4
6.4.1 Dynamic radial loading test at defined temperature limits.....	4
6.4.2 Test on guard component covering joints.....	5
6.4.3 Test on tubes.....	5
6.4.4 Dynamic swivel test.....	5
6.4.5 Static axial loading test at ambient temperature.....	8
6.4.6 Dynamic axial loading test of the bearings at ambient temperature.....	8
6.5 Tests at sub-zero temperature.....	8
6.5.1 Impact test at sub-zero temperatures.....	8
6.5.2 Static axial loading test at sub-zero temperatures.....	9
6.6 Restraining means test at ambient temperature.....	10
6.6.1 Conventional means of attachment.....	10
6.6.2 Other restraining means.....	10
7 Final acceptance criteria	11
8 Test report	12
Annex A (normative) Test schedule — Test sequence for cone and tube guards	13
Annex B (normative) UV test for plastic guards	17
Annex C (informative) Typical test report	18
Annex D (informative) Novel design guard and restraining systems tests	21
Bibliography	25

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

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).

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. ISO shall not be held responsible for identifying any or all such patent rights.

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 2, *Common tests*, 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).

This third edition cancels and replaces the second edition (ISO 5674:2004), which has been technically revised.

The main changes are as follows:

- the wording of [Annex B](#) line 8 has been clarified regarding “spectral irradiance”;
- the Type 4 Power Take-Off from ISO 500-1:2014 has been added.

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.

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

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 (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. 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 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 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.

This is a preview of BS EN ISO 5674:2025. [Click here to purchase the full version from the ANSI store.](#)

Tractors and machinery for agriculture and forestry — Guards for power take-off (PTO) drive-shafts — Strength and wear tests and acceptance criteria

1 Scope

This document specifies tests for determining the strength and wear resistance of guards for power take-off (PTO) drive-shafts on tractors and machinery used in agriculture and forestry, and their acceptance criteria. It is intended to be used in combination with ISO 5673-1:2005.

It is applicable to the testing of PTO drive-shaft guards and their restraining means. It is not applicable to the testing of guards designed and constructed to be used as steps.

This document is not applicable to guards for power take-off drive shafts that are manufactured before the date of publication of this document.

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 500-1:2014, *Agricultural tractors — Rear-mounted power take-off types 1, 2, 3 and 4 — Part 1: General specifications, safety requirements, dimensions for master shield and clearance zone*

ISO 4892-1:2016, *Plastics — Methods of exposure to laboratory light sources — Part 1: General guidance*

ISO 4892-2:2013, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps*

ISO 4892-2:2013/Amd 1:2021, *Plastics — Methods of exposure to laboratory light sources — Part 2: Xenon-arc lamps — Amendment 1: Classification of daylight filters*

ISO 5673-1:2005, *Agricultural tractors and machinery — Power take-off drive shafts and power-input connection — Part 1: General manufacturing and safety requirements*

ISO 105-A02:1993, *Textiles — Tests for colour fastness — Part A02: Grey scale for assessing change in colour*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 5673-1:2005 and the following apply.

ISO and IEC maintain terminology 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 minimum length

minimum distance that can be measured along the outside of the guard when held at its closed length

Note 1 to entry: For closed length, see ISO 5673-1:2005.