



BSI Standards Publication

Underground mining machines — Mobile extracting machines at the face — Safety requirements for shearer loaders and plough systems (ISO 19225:2017)

National foreword

This British Standard is the UK implementation of EN ISO 19225:2017. It is identical to ISO 19225:2017. It supersedes BS EN 1552:2003, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MRE/1, Mining mechanical equipment and machinery.

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.

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EUROPEAN STANDARD
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English Version

**Underground mining machines - Mobile extracting
machines at the face - Safety requirements for shearer
loaders and plough systems (ISO 19225:2017)**

Machines d'exploitation de mines et carrières
souterraines - Machines mobiles d'abattage de front de
taille - Exigences de sécurité imposées aux haveuses à
tambour(s) et aux rabots (ISO 19225:2017)

Bergbaumaschinen unter Tage - Mobile
Abbaumaschinen im Streb - Sicherheitsanforderungen
für Walzenlader und Hobelanlagen (ISO 19225:2017)

This European Standard was approved by CEN on 16 November 2017.

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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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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

The text of ISO 19225:2017 has been prepared by Technical Committee ISO/TC 82 “Mining” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 19225:2017 by Technical Committee CEN/TC 196 “Mining machinery and equipment - Safety” the secretariat of which is held by DIN.

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 2018, and conflicting national standards shall be withdrawn at the latest by June 2018.

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 1552:2003.

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.

For relationship with EU Directive, 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, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 19225:2017 has been approved by CEN as EN ISO 19225:2017 without any modification.

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

Essential Requirements of EU Directive 2006/42/EC	Clause(s)/sub-clause(s) of this European Standard	Remarks/Notes
Within the limits of the scope all relevant essential requirements with the exception of essential requirements 1.5.8 and 1.7.4.2 j and u are covered	All normative clauses except clause 5.7 and annex A.	For relation of normative clauses (except clause 5.7 and annex A) of this standard to significant hazards/relevant essential requirements of 2006/42/EC see clause 4 „List of significant hazards“ of this standard in combination with annex D “Examples of significant hazards, hazardous situations, hazardous events and their relation to the Essential Requirements of the Machinery Directive 2006/42/EC” of CEN Guide 414 (https://boss.cen.eu/ref/CEN_414.pdf).

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 requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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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 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 on 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 the following URL: www.iso.org/iso/foreword.html

The committee responsible for this document is ISO/ TC 82, *Mining*.

Introduction

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 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.

The machines concerned work with tools for cutting minerals such as coal, ore, salt and surrounding rock, at a fixed or variable height and are guided on armoured face conveyors or their attachments. Shearer loaders have built-in haulage systems. They can be directly operated by one or more drivers or be remotely or program controlled. Plough systems are remotely controlled. Wireless remote control systems of shearer loaders are used in the immediate environment of the machines.

Underground mining machines — Mobile extracting machines at the face — Safety requirements for shearer loaders and plough systems

1 Scope

This document specifies safety requirements to minimize the hazards listed in [Clause 4](#) that can occur during the assembly, use, maintenance, repair, decommissioning, disassembly and disposal of shearer loaders and plough systems when used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, in underground mining.

This document does not cover any hazards resulting from explosive atmospheres. Requirements for explosive atmospheres can be found in ISO/IEC 80079-38.

This document is not applicable to machines that are 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 3457:2003, *Earth-moving machinery — Guards — Definitions and requirements*

ISO 3864-3, *Graphical symbols — Safety colours and safety signs — Part 3: Design principles for graphical symbols for use in safety signs*

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

ISO 6405-1, *Earth-moving machinery — Symbols for operator controls and other displays — Part 1: Common symbols*

ISO 7731:2003, *Ergonomics — Danger signals for public and work areas — Auditory danger signals*

ISO 9244, *Earth-moving machinery — Machine safety labels — General principles*

ISO 9355-1, *Ergonomic requirements for the design of displays and control actuators — Part 1: Human interactions with displays and control actuators*

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

ISO 12922, *Lubricants, industrial oils and related products (class L) — Family H (Hydraulic systems) — Specifications for hydraulic fluids in categories HFAE, HFAS, HFB, HFC, HFDR and HFDU*

ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces*

ISO 13849-1, *Safety of machinery — Safety-related parts of control systems — Part 1: General principles for design*

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

ISO 14120, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*