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Standards

Irish Standard  
I.S. EN ISO 3457:2008

# Earth-moving machinery - Guards - Definitions and requirements (ISO 3457:2003)

## I.S. EN ISO 3457:2008

*Incorporating amendments/corrigenda issued since publication:*

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English Version

Earth-moving machinery - Guards - Definitions and requirements  
(ISO 3457:2003)

Engins de terrassement - Protecteurs - Définitions et  
exigences (ISO 3457:2003)

Erdbaumaschinen - Schutzeinrichtungen - Begriffe und  
Anforderungen (ISO 3457:2003)

This European Standard was approved by CEN on 25 August 2008.

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## **Foreword**

The text of ISO 3457:2003 has been prepared by Technical Committee ISO/TC 127 “Earth-moving machinery” of the International Organization for Standardization (ISO) and has been taken over as EN ISO 3457:2008 by Technical Committee CEN/TC 151 “Construction equipment and building material machines - 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of an identical text or by endorsement, at the latest by March 2009, and conflicting national standards shall be withdrawn at the latest by December 2009.

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 3457:2003.

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 EC Directive(s).

For relationship with EC Directive(s), see informative Annexes ZA and ZB, which are integral parts 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, 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 3457:2003 has been approved by CEN as a EN ISO 3457:2008 without any modification.

**Annex ZA  
(informative)**

**Relationship between this European Standard and the Essential  
Requirements of EU Directive 98/37/EC**

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive Machinery 98/37/EC, amended by 98/79/EC.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements **1.3.8, 1.4, 1.5.3, 1.5.5, 1.6.2, 1.6.4, 3.2.1, 3.4.2** of that Directive and associated EFTA regulations.

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

## **Annex ZB (informative)**

### **Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC**

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Communities under that Directive and has been implemented as a national standard in at least one Member State, compliance with the normative clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the relevant Essential Requirements **1.3.8, 1.4, 1.5.3, 1.5.5, 1.6.2, 1.6.4, 3.2.1, 3.4.2** of that Directive and associated EFTA regulations.

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

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**Earth-moving machinery — Guards —  
Definitions and requirements**

*Engins de terrassement — Protecteurs — Définitions et exigences*



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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.

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 3457 was prepared by Technical Committee ISO/TC 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety requirements and human factors*.

This fourth edition cancels and replaces the third edition (ISO 3457:1986), which has been technically revised.

## **Introduction**

This International Standard provides performance requirements for guards and other means of protecting personnel from unintentional contact with common mechanical, fluid or thermal hazards on earthmoving machinery during normal machine operation and routine maintenance. Relationships between the distance separating a guard from a hazardous component and the guard opening size based on anthropometric data are included.

Some factors having a significant effect upon personnel protection, such as operator and service personnel training, experience and careful practice, are outside the scope of this International Standard.

Deviations from these requirements to allow technological advances in machine systems and designs are permissible. In complying with this International Standard, the following three safety principles are to be considered, in the order given, based on feasibility:

- a) eliminate potential hazards by machine design;
- b) guard against contact with sources of potential safety hazards if elimination by design is not feasible;
- c) warn of potential safety hazards where neither a) nor b) is feasible.

**I.S. EN ISO 3457:2008**

# Earth-moving machinery — Guards — Definitions and requirements

## 1 Scope

This International Standard defines principal terms and specifies requirements for, and characteristics of, guards and other means of protecting personnel from mechanical, fluid or thermal hazards associated with the operation and routine maintenance of earth-moving machinery as defined in ISO 6165, when used as intended by the manufacturer.

## 2 Normative references

The following referenced documents are indispensable for the application 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 2867, *Earth-moving machinery — Access systems*

ISO 3411, *Earth-moving machinery — Human physical dimensions of operators and minimum operator space envelope*

ISO 6165, *Earth-moving machinery — Basic types — Vocabulary*

ISO 6682, *Earth-moving machinery — Zones of comfort and reach for controls*

ISO 9244, *Earth-moving machinery — Safety signs and hazard pictorials — General principles*

ISO 12508, *Earth-moving machinery — Operator station and maintenance areas — Bluntness of edges*

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

### 3.1

#### **guard**

protective device, alone or combined with other parts of the machine, designed and fitted to minimize the possibility of contact with a potentially hazardous machine component

#### 3.1.1

##### **barrier guard**

guard that restricts the movement of a person's body or a part of it, in order to avoid its contact with a machine component or exposure to other, similar hazards

EXAMPLE Rail, frame, cover or enclosure.

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