



SLOVENSKI STANDARD SIST EN ISO 3471:2008

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Earth-moving machinery - Roll-over protective structures - Laboratory tests and performance requirements (ISO 3471:2008)

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Erdbaumaschinen - Überrollschutzaufbauten - Laborprüfungen und Leistungsanforderungen (ISO 3471:2008)

[SIST EN ISO 3471:2008](https://standards.itih.ai/catalog/standards/sist/2c71b87b-ccf2-46c4-b82e-dad40ed2da05/sist-en-iso-3471-2008)

Engins de terrassement - Structures de protection au retournement - Essais de laboratoire et exigences de performance (ISO 3471:2008)

Ta slovenski standard je istoveten z: EN ISO 3471:2008

ICS:

53.100 Stroji za zemeljska dela Earth-moving machinery

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 3471

August 2008

ICS 53.100

Supersedes EN 13510:2000

English Version

**Earth-moving machinery - Roll-over protective structures -
Laboratory tests and performance requirements (ISO
3471:2008)**

Engins de terrassement - Structures de protection au
retournement - Essais de laboratoire et exigences de
performance (ISO 3471:2008)

Erdbaumaschinen - Überrollschutzaufbauten -
Laborprüfungen und Leistungsanforderungen (ISO
3471:2008)

This European Standard was approved by CEN on 8 May 2008.

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 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

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COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 3471:2008) has been prepared by Technical Committee ISO/TC 127 "Earth-moving machinery" in collaboration with 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 February 2009, and conflicting national standards shall be withdrawn at the latest by February 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 13510:2000.

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.

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Endorsement notice

The text of ISO 3471:2008 has been approved by CEN as a EN ISO 3471:2008 without any modification.

Annex ZA (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 98/37/EC, amended by 98/79/EC

This International 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 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, except Clause 10 and Annex A, confers, within the limits of the scope of this standard, a presumption of conformity with the Essential Requirements 3.4.3 of that Directive and associated EFTA regulations.

WARNING: Other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

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Annex ZB (informative)

Relationship between this International Standard and the Essential Requirements of EU Directive 2006/42/EC

This International Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide one 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, except Clause 10 and Annex A, confers, within the limits of the scope of this standard, a presumption of conformity with Essential Requirement 3.4.3 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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INTERNATIONAL STANDARD

ISO
3471

Fourth edition
2008-08-15

Earth-moving machinery — Roll-over protective structures — Laboratory tests and performance requirements

*Engins de terrassement — Structures de protection au retournement —
Essais de laboratoire et exigences de performance*

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Reference number
ISO 3471:2008(E)

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Published in Switzerland

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ISO 3471:2008(E)**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 3471 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 3471:1994), which has been technically revised. It also incorporates the Amendment (ISO 3471:1994/Amd 1:1997) and the Technical Corrigendum ISO 3471:1994/Cor 1:2000.

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Introduction

A review of the initial work on the criteria for roll-over protective structures (ROPS) indicated that these criteria were based on requirements for machines now identified as mid-range size machines. Since the ROPS criteria were established, both smaller and larger machines have become common within the size range of earth-moving machines.

The criteria are a combination of linear and exponential, with respect to mass. For small machines, the exponential criterion has been changed to a linear function with respect to machine mass. For larger machines, the exponential criterion was excessive at very large machine masses, and thus was changed to become a linear function with respect to machine mass.

The longitudinal force criteria were added as new data became available. Situations could arise where ROPS designs would meet the lateral and vertical loading requirements, but yet be considered as lacking sufficient performance capability in the longitudinal load direction. For this reason, this International Standard incorporates a ROPS longitudinal force criterion. The longitudinal force criterion has been established at 80 % of the lateral force requirement.

The evaluation procedure will not necessarily duplicate structural deformations due to a given actual roll. However, specific requirements are derived from investigations on ROPS that have performed the intended function in a variety of actual roll-overs, as well as analytical considerations based upon the compatibility of ROPS and the machine frame to which it is attached.

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