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Earth-moving machinery - Seat-belt assemblies and seat-belt anchorages - Performance requirements and tests (ISO 6683:2025)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 02/26

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English Version

Earth-moving machinery - Seat-belt assemblies and seat-belt anchorages - Performance requirements and tests (ISO 6683:2025)

Engins de terrassement - Assemblages de ceintures de sécurité et ancrages pour ceintures de sécurité - Exigences de performance et essais (ISO 6683:2025)

Erdbaumaschinen - Sitzgurte und Sitzgurtverankerungen - Anforderungen und Prüfverfahren (ISO 6683:2025)

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN ISO 6683:2025) 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of an identical text or by endorsement, at the latest by May 2026, and conflicting national standards shall be withdrawn at the latest by May 2026.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 6683:2008.

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 6683:2025 has been approved by CEN as EN ISO 6683:2025 without any modification.



International Standard

ISO 6683

Earth-moving machinery — Seat- belt assemblies and seat-belt anchorage — Performance requirements and tests

*Engins de terrassement — Assemblages de ceintures de
sécurité et ancrages pour ceintures de sécurité — Exigences de
performance et essais*

**Third edition
2025-10**

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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ISO 6683:2025(en)**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 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).

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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 127, *Earth-moving machinery*, Subcommittee SC 2, *Safety, ergonomics and general requirements*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 151, *Construction equipment and building material machines - Safety*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 6683:2005), which has been technically revised.

The main changes are as follows:

- introduction has been added;
- testing force has been modified to include an additional force when a seat system has a mass of applicable seat components greater than 70 kg;
- TSIP has been introduced;
- informative [Annex A](#) listing the applicable requirements from SAE J386:2022 for seat-belt assembly components has been introduced.

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.

ISO 6683:2025(en)

Introduction

The testing of seat-belt assemblies and seat-belt anchorages is aimed at keeping the seat-belted occupant within the operator protective structure in case of accidental overturning during operation.

This document enables a machine's seat-belt assembly and seat-belt anchorages to be tested by the application of static loads that simulate the actual loads which can be imposed on them when the machine overturns. This document defines performance requirements for anchorages taking into account the different seat's configurations. A seat-belt assembly that meet the requirements of UNECE R16:2000, Clause 6, but excluding 6.4 of that regulation, or a seat-belt assembly complying with the requirements of SAE J386:2022 is deemed to comply with the requirements in [Clause 4](#) of this document.

NOTE The requirement in [Clause 4](#) of this document is normally the responsibility of the seat-belt assembly manufacturer.

This document is a type-B standard as stated in ISO 12100.

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 organisations, 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 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.

In addition, this document is intended for standardization bodies elaborating type-C standards.

The requirements of this document can be supplemented or modified by a type-C standard.

For machines which are covered by the scope of a type-C standard and which have been designed and built according to the requirements of that standard, the requirements of that type-C standard take precedence.

Earth-moving machinery — Seat-belt assemblies and seat-belt anchorages — Performance requirements and tests

1 Scope

This document establishes the minimum performance requirements and tests for seat-belt assemblies and seat-belt anchorages on earth-moving machinery, necessary to restrain an occupant within a roll-over protective structure (ROPS) in the event of a machine roll-over (see ISO 3471:2008, ISO 12117-2:2008/Amd 1:2016, and ISO 13459:2012/Amd 1:2022), or within a tip-over protection structure (TOPS) in the event of a machine tip-over (see ISO 12117:1997).

This document is not applicable to seat-belt assemblies and seat-belt anchorages 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 5353:1995, *Earth-moving machinery, and tractors and machinery for agriculture and forestry — Seat index point*

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

SAE J386:2022, *Occupant Restraint System for Off-Road Work Machines*

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