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Dvigala za prevoz oseb in blaga - 2. del: Pravila konstruiranja, izračuni, pregledi in preskusi sestavnih delov dvigal (ISO 8100-2:2026)

Lifts for the transport of persons and goods - Part 2: Design rules, calculations, examinations and tests of lift components (ISO 8100-2:2026)

Aufzüge für den Personen- und Gütertransport - Teil 2: Konstruktionsregeln, Berechnungen und Prüfungen von Aufzugskomponenten (ISO 8100-2:2026)

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ICS:

91.140.90	Dvigala. Tekoče stopnice	Lifts. Escalators

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 8100-2

June 2026

ICS 91.140.90

Supersedes EN 81-50:2020

English Version

Lifts for the transport of persons and goods - Part 2: Design rules, calculations, verifications and tests of lift components (ISO 8100-2:2026)

Elévateurs pour le transport de personnes et d'objets - Partie 2: Règles de conception, calculs, examens et essais des composants pour élévateurs (ISO 8100-2:2026)

Aufzüge für den Personen- und Gütertransport - Teil 2: Konstruktionsregeln, Berechnungen und Prüfungen von Aufzugskomponenten (ISO 8100-2:2026)

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European foreword

This document (EN ISO 8100-2:2026) has been prepared by Technical Committee ISO/TC 178 "Lifts, escalators and moving walks" in collaboration with Technical Committee CEN/TC 10 “Lifts, escalators and moving walks” 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of an identical text or by endorsement, at the latest by December 2026, and conflicting national standards shall be withdrawn at the latest by June 2029.

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 81-50:2020.

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.

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Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2014/33/EU aimed to be covered

This European Standard has been prepared under a Commission's standardization request C(2023) 6588 final ('M/599')[1)] to provide one voluntary means of conforming to requirements of Directive 2014/33/EU of the European Parliament and of the Council of 26 February 2014 as regards lifts and safety components for lifts (OJ L 96, 29.3.2014).

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.1.1, Table ZA.1.2 and Table ZA.1.3 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.1.1 — Correspondence between this European Standard and Annex I of Directive 2014/33/EU

The relevant essential health and safety requirements of Annex I to Directive 2014/33/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1	See below Table ZA.1.2	
6.1	4.2.3, 4.3.5, 4.4.3, 4.5.4, 4.6.4, 4.7.4, 4.8.4, 4.9.4	

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Table ZA.1.2 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC

The relevant essential health and safety requirements of Annex I to Directive 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2 (a)	4	
1.1.2 (c)	4	

1) C(2023) 6588, COMMISSION IMPLEMENTING DECISION of 5.10.2023 on a standardisation request to the European Committee for Standardization as regards lifts and safety components for lifts in support of Directive 2014/33/EU of the European Parliament and of the Council

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Table ZA.1.3 — Correspondence between this European Standard and Annex III of Regulation (EU) 2023/1230

The relevant essential health and safety requirements of Annex III to Regulation (EU) 2023/1230	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2 (a)	4	
1.1.2 (c)	4	

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.

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ISO 8100-2

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Part 2: Design rules, calculations, verifications and tests of lift components

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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 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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This document was prepared by Technical Committee ISO/TC 178, *Lifts, escalators and moving walks,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 10, *Lifts, escalators and moving walks,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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This second edition cancels and replaces the first edition (ISO 8100-2:2019), which has been technically revised.

The main changes are as follows:

— mechanical tests and temperature tests of safety circuits and SIL-rated circuits have been updated;

— errors in the formulae for traction calculation have been corrected;

— verification methods for suspension and compensation means other than steel wire ropes have been added;

— discard criteria for suspension means and sheaves have been added;

— requirements for SIL-rated circuits (previously called PESSRAL) have been revised;

— the document structure has been revised as per the ISO/IEC Directives, Part 2.

ISO/TS 8100-3:2019 provides information on the differences between this document and local standards (ASME A17.1/CSA B44 and JIS A 4307 1/JIS A 4307 2) not included in this document.

This document is intended to be used in conjunction with documents calling for the use of this document (e.g. ISO 8100-1:2026).

A list of all parts in the ISO 8100 series can be found on the ISO website.

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Introduction

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 case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations and 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.

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Lifts for the transport of persons and goods —

Part 2: Design rules, calculations, verifications and tests of lift components

1 Scope

This document specifies for passenger lifts and goods passenger lifts:

— the verification of door locking devices;

— the verification of safety gears;

— the verification of overspeed governors;

— the verification of buffers;

— the verification of safety circuits and SIL-rated circuits;

— the verification of ascending car overspeed protection means;

— the verification of unintended car movement protection means;

— the verification of rupture valves and one-way restrictors;

— the verification of suspension and compensation means;

— the discard criteria for suspension means and sheaves;

— the calculation of guide rails;

— the calculation of rams, cylinders, rigid pipes and fittings;

— the evaluation of the traction;

— the evaluation of the safety factor on suspension means;

— the pendulum shock tests;

— the fault exclusion for electric and electronic components;

— the design rules for SIL-rated circuits.

This document is not applicable to passenger lifts, goods passenger lifts or lift components, which are installed or manufactured before the date of its publication.

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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 148-1:2016, *Metallic materials — Charpy pendulum impact test — Part 1: Test method*

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