ICS 11.180.10, 91.140.90 SLOVENSKÁ TECHNICKÁ NORMA Február 2025

STN	**Bezpečnostné pravidlá na konštrukciu a montáž výťahov Špeciálne výťahy na prepravu osôb a nákladov Časť 41: Zvislé zdvíhacie plošiny určené na používanie osobami so zníženou pohyblivosťou**	**STN EN 81-41** 27 4003

Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 41: Vertical lifting platforms intended for use by persons with impaired mobility

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. 01/25

Obsahuje: EN 81-41:2024

Oznámením tejto normy sa od 30.11.2026 ruší
STN EN 81-41 (27 4003) z júla 2011

140048

Úrad pre normalizáciu, metrológiu a skúšobníctvo Slovenskej republiky, 2025
Slovenská technická norma a technická normalizačná informácia je chránená zákonom č. 60/2018 Z. z. o technickej normalizácii v znení neskorších predpisov.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 81-41

November 2024

ICS 11.180.10; 91.140.90 Supersedes EN 81-41:2010

English Version

Safety rules for the construction and installation of lifts - Special lifts for the transport of persons and goods - Part 41: Vertical lifting platforms intended for use by persons with impaired mobility

Règles de sécurité pour la construction et l'installation des élévateurs - Élévateurs spéciaux pour le transport des personnes et des charges - Partie 41: Plates-formes élévatrices verticales à l'usage des personnes à mobilité réduite

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Spezielle Aufzüge für den Personen- und Gütertransport - Teil 41: Vertikale Plattformaufzüge für Personen mit eingeschränkter Beweglichkeit

This European Standard was approved by CEN on 2 September 2024.

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-CENELEC 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-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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

© 2024 CEN All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

Ref. No. EN 81-41:2024 E

Contents

Page

European foreword

This document (EN 81-41:2024) has been prepared by 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 May 2025, and conflicting national standards shall be withdrawn at the latest by November 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 81-41:2010.

This document constitutes a full revision of the standard. The main technical changes with respect to EN 81-41:2010 are:

— requirement for a means for detection of a person on the carrier has been added;

— friction roller drive has been removed;

— traction drive requirements have been introduced;

— screw and nut drive requirements have been strengthened (inspection, safety nut, fixing requirements);

— landing door lock release requirements have been revised;

— power door contact forces have been reduced;

— toothed belts drive has been added;

— use of the word “carrier” vs “platform” has been revised;

— all normative references to other standards have been dated;

— a new Annex ZA, including a detailed Table ZA.1, has been developed.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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.

Introduction

The population of Europe is ageing and the prevalence of disability, including disability associated with the ageing process, is increasing. Older people and people with disabilities at present are estimated to number some 80 million people – a large and growing proportion of the European Union population. The changing demography presents both opportunities and challenges for the Union. The economic, social and cultural potential of older people and people with disabilities is underexploited at present. However, there is a growing recognition that society needs to exploit this potential for the economic and social benefit of society generally.

This is one of the reasons that led to this standard on vertical lifting platforms for people with impaired mobility being one means to provide accessibility to buildings.

This standard is a type-C standard as stated in EN 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 this 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.

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 lifting platforms defined in this standard are suitable for type-A and type-B wheelchairs as defined in EN 12183:2022 and/or EN 12184:2022. The lifting platforms are equally suitable for persons either with or without impaired mobility.

Those items relevant to lifting platforms referenced within EN 81-70:2021+A1:2022 have been included within this standard.

This standard does not only address the essential health and safety requirements of the Machinery Directive, but additionally states minimum rules for the installation of lifting platforms into buildings/constructions. There may be additional national regulations for the construction of vertical lifting platforms in building, in some countries which cannot be ignored.

It is essential that minimum passageways conform to national building regulations and are not obstructed by any open door or trap and/or any protection means provided for working areas outside of the enclosed liftway where fitted according to the maintenance instructions.

Assumptions

With the aim of clarifying the intentions of the standard and avoiding doubts when applying it, the following assumptions were made when producing it:

a) Vertical lifting platforms are installed in both new and existing buildings.

b) Liftways contain only that equipment associated with a specific lifting platform. All counterweights or balance weights are in the same liftway as the carrier.

c) Drive and control equipment is installed in a machinery space.

d) General hazards due to hydraulic, pneumatic, etc. equipment are dealt with according to relevant B level standards for common use.

e) Components are kept in good repair and working order, in accordance with the maintenance manual, so that the required characteristics remain despite wear.

f) To ensure the safe functioning, the operating temperature range of the equipment will take into account the conditions of the place of use of the machinery, inside the maximum range of ambient temperature between +5 °C and +40 °C. For very hot or cold environments extra requirements may be necessary.

g) Negotiations have been made between the customer and the manufacturer about:

— environmental conditions;

— civil engineering conditions;

— other aspects related to the place of installation;

— the use and places of use of the machinery;

— the place of installation allows a safe use for the machine;

— any additional fire protection requirements;

— suitability for the user (see Annex B);

— pattern of use.

1 Scope

1.1 This document deals with safety requirements for construction, installation, maintenance and dismantling of electrically powered vertical lifting platforms affixed to a building structure intended for use by persons with impaired mobility:

— travelling vertically between predefined levels along a guided path whose inclination to the vertical does not exceed 15°;

— intended for use by persons with or without a wheelchair;

— supported or sustained by rack and pinion, rope traction drive, traction drive, rope positive drive, chains, toothed belts, screw and nut, guided chain, scissors mechanism or hydraulic jack (direct or indirect);

— with enclosed liftways;

— with a rated speed not greater than 0,15 m/s;

— with carrier not completely enclosed.

1.2 This document deals with all significant hazards relevant to lifting platforms, when they are used as intended and under the conditions foreseen by the manufacturer (see Clause 4).

Those hazards have been considered for each component that may be incorporated in a complete lift installation and rules have been drawn up accordingly. Components are:

a) designed in accordance with the usual engineering practice and calculation codes, including all failure modes;

b) of sound mechanical and electric construction.

1.3 This document does not specify the additional requirements for:

— operation in severe conditions (e.g. extreme climates, strong magnetic fields);

— lightning protection;

— operation subject to special rules (e.g. potentially explosive atmospheres);

— handling of materials, the nature of which could lead to dangerous situations;

— vertical lifting platforms whose primary function is the transportation of goods;

— vertical lifting platforms whose carriers are completely enclosed;

— vertical lifting platforms prone to vandalism;

— hazards occurring during manufacture;

— earthquakes, flooding;

— firefighting, evacuation and behaviour during a fire;

— noise and vibrations;

— the design of concrete, hard core, timber or other foundation or building arrangement;

— the design of anchorage bolts to the supporting structure;

— type C wheelchairs as defined in EN 12183:2022 and/or EN 12184:2022.

NOTE For the actual type of machinery, noise is not considered a significant nor relevant hazard.

1.4 This document is not applicable to vertical lifting platforms intended for use by persons with impaired mobility which are manufactured before the date of its publication as an EN.

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.

EN 81-20:2020, *Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 20: Passenger and goods passenger lifts*

EN 81-50:2020, *Safety rules for the construction and installation of lifts - Examinations and tests - Part 50: Design rules, calculations, examinations and tests of lift components*

EN 81-58:2022, *Safety rules for the construction and installation of lifts - Examination and tests - Part 58: Landing doors fire resistance test*

EN 1993-1-1:2022, *Eurocode 3 - Design of steel structures - Part 1-1: General rules and rules for buildings*

EN 12015:2020, *Electromagnetic compatibility - Product family standard for lifts, escalators and moving walks - Emission*

EN 12016:2013, *Electromagnetic compatibility - Product family standard for lifts, escalators and moving walks - Immunity*

EN 12183:2022, *Manual wheelchairs - Requirements and test methods*

EN 12184:2022, *Electrically powered wheelchairs, scooters and their chargers - Requirements and test methods*

EN 12385-5:2021, *Steel wire ropes - Safety - Part 5: Stranded ropes for lifts*

EN 12600:2002, *Glass in building - Pendulum test - Impact test method and classification for flat glass*

EN 13015:2001+A1:2008, *Maintenance for lifts and escalators - Rules for maintenance instructions*

EN 13411-3:2022, *Terminations for steel wire ropes - Safety - Part 3: Ferrules and ferrule-securing*

EN 13411-6:2004+A1:2008, *Terminations for steel wire ropes - Safety - Part 6: Asymmetric wedge socket*

EN 13411-7:2021, *Terminations for steel wire ropes - Safety - Part 7: Symmetric wedge socket*

EN 13411-8:2011, *Terminations for steel wire ropes - Safety - Part 8: Swage terminals and swaging*

EN 16005:2023+A1:2024, *Power operated pedestrian doorsets - Safety in use - Requirements and test methods*

EN 50214:2006[1], *Flat polyvinyl chloride sheathed flexible cables*

EN 60204-1:2018, *Safety of machinery - Electrical equipment of machines - Part 1: General requirements*

EN 60204-32:2008, *Safety of machinery - Electrical equipment of machines - Part 32: Requirements for hoisting machines*

EN 60529:1991[2], *Degrees of protection provided by enclosures (IP Code) (IEC 60529:1989)*

EN IEC 60664-1:2020, *Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests*

EN IEC 60747-5-5:2020, *Semiconductor devices - Part 5-5: Optoelectronic devices - Photocouplers*

EN IEC 60947-4-1:2019, *Low-voltage switchgear and controlgear - Part 4-1: Contactors and motor-starters - Electromechanical contactors and motor-starters*

EN 60947-5-1:2017[3], *Low-voltage switchgear and controlgear — Part 5-1: Control circuit devices and switching elements — Electromechanical control circuit devices (IEC 60947-5-1:2016)*

EN IEC 61558-1:2019, *Safety of transformers, reactors, power supply units and combinations thereof - Part 1: General requirements and tests*

EN 61800-5-2:2017, *Adjustable speed electrical power drive systems - Part 5-2: Safety requirements - Functional*

EN 62326-1:2002, *Printed boards - Part 1: Generic specification*

EN ISO 7010:2020, *Graphical symbols - Safety colours and safety signs - Registered safety signs (ISO 7010:2019, Corrected version 2020-06)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13850:2015, *Safety of machinery - Emergency stop function - Principles for design (ISO 13850:2015)*

EN ISO 13854:2019, *Safety of machinery - Minimum gaps to avoid crushing of parts of the human body (ISO 13854:2017)*

EN ISO 13857:2019, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2019)*

EN ISO 14120:2015, *Safety of machinery - Guards - General requirements for the design and construction of fixed and movable guards (ISO 14120:2015)*

---

[1] This document is impacted by EN 50214:2006/Corrigendum Dec. 2007.

[2] This document is impacted by EN 60529:1991/A1:2000, EN 60529:1991/A2:2013 and EN 60529:1991/AC:2016.

[3] This document is impacted by EN 60947-5-1:2017/AC:2020.

ISO 606:2015, *Short-pitch transmission precision roller and bush chains, attachments and associated chain sprockets*

ISO 6336-1:2019, *Calculation of load capacity of spur and helical gears — Part 1: Basic principles, introduction and general influence factors*

ISO 7000:2019, *Graphical symbols for use on equipment — Registered symbols*

ISO 13050:2022, *Synchronous belt drives — Metric pitch, curvilinear profile systems G, H, R and S, belts and pulleys*

IEC 60417:2024, *Graphical symbols for use on equipment*

koniec náhľadu – text ďalej pokračuje v platenej verzii STN