

AS 1735.15:2021



Lifts, escalators and moving walks

Part 15: Safety rules for the construction and installation of lifts — Special lifts for the transport of persons and goods — Vertical lifting platforms intended for use by persons with impaired mobility (EN 81- 41:2010, MOD)

This national standard is the adoption of EN 81-41:2010 with national modifications as set out in the Appendix ZZ to take account of Australian conditions with the permission of the European Committee for Standardization — CEN, Rue de la Science 23, B — 1040 Brussels, Belgium.



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- Australian Industry Group
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- Engineers Australia
- Lift Engineering Society of Australia
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Preface

This Standard was prepared by the Standards Australia Committee ME-004, Lift Installations, to supersede AS 1735.15—2002, *Lifts, escalators, and moving walks, Part 15: Low-rise passenger lifts — Nonautomatically controlled*.

The objective of this document is to specify safety requirements for construction, manufacturing, installation, maintenance and dismantling of electrically powered vertical lifting platforms affixed to a building structure intended for use by persons with impaired mobility—

- (a) travelling vertically between predefined levels along a guided path whose inclination to the vertical does not exceed 15°;
- (b) intended for use by persons with or without a wheelchair;
- (c) supported or sustained by rack and pinion, wire ropes, chains, screw and nut, friction/traction between wheels and the rail, guided chain, scissors mechanism or hydraulic jack (direct or indirect);
- (d) with enclosed lift ways;
- (e) with a speed not greater than 0,15 m/s; and
- (f) with platforms where the carrier is not completely enclosed.

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.

This document does not specify the additional requirements for—

- (i) operation in severe conditions, e.g. extreme climates, strong magnetic fields;
- (ii) lightning protection;
- (iii) operation subject to special rules (e.g. potentially explosive atmospheres);
- (iv) handling of materials, the nature of which could lead to dangerous situations;
- (v) vertical lifting platforms whose primary function is the transportation of goods;
- (vi) vertical lifting platforms whose carriers are completely enclosed;
- (vii) vertical lifting platforms prone to vandalism;
- (viii) hazards occurring during manufacture;
- (ix) earthquakes, flooding;
- (x) firefighting, evacuation and behaviour during a fire;
- (xi) noise and vibrations;
- (xii) design of concrete, hardcore, timber or other foundation or building arrangement;
- (xiii) design of anchorage bolts to the supporting structure; and
- (xiv) type C wheelchairs as defined in AS/NZS 3695.1—2011 and AS 3695.2:2019.

This document is not applicable to vertical lifting platforms intended for use by persons with impaired mobility which are manufactured before 2010.

This document is an adoption with national modifications, and has been reproduced from, EN 81-41:2010, *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*.

The modifications are additional requirements and are set out in Appendix ZZ, which has been added at the end of the source text.

Appendix ZZ lists the variations to EN 81-41:2010 for the application of this Standard in Australia.

As this document has been reproduced from an International Standard, the following applies:

(a) In the source text “this European Standard” should read “this document”.

(b) A full point substitutes for a comma when referring to a decimal marker.

As this document has been reproduced from an International Standard, a full point substitutes for a comma when referring to a decimal marker.

Australian or Australian/New Zealand Standards that are identical adoptions of international normative references may be used interchangeably. Refer to the online catalogue for information on specific Standards.

The terms “normative” and “informative” are used in Standards to define the application of the appendices or annexes to which they apply. A “normative” appendix or annex is an integral part of a Standard, whereas an “informative” appendix or annex is only for information and guidance.

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Foreword

This document (EN 81-41:2010) 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 June 2011, and conflicting national standards shall be withdrawn at the latest by June 2011.

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 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 2006/42/EC.

For relationship with EC Directive 2006/42/EC, see informative Annex ZA, which is an integral part 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.

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 (all parts).

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are indicated in the scope of this standard.

When provisions of this type C standard are different from those which are stated in type A and type B standards the provisions of this type C standard take precedence over the provisions of the other standards, for machines that have been designed and built according to the provisions 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 and/or EN 12184.

Those items relevant to lifting platforms referenced within EN 81-70 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 in some countries regulations for the construction of building etc. 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:

- Vertical lifting platforms are installed in both new and existing buildings;
- For existing buildings where space is not available, other dimensions may be considered. Local building regulations should be observed;
- components without specific requirements are:
 - a) designed in accordance with the usual engineering practice and calculation codes, including all failure modes;
 - b) of sound mechanical and electrical construction;
 - c) general hazards due to hydraulic, pneumatic, etc. equipment are dealt with according to relevant B level standards for common use.
 - d) Materials known to be harmful materials, such as asbestos are not to be used as part of the machine;

- components are kept in good repair and working order, in accordance with the maintenance manual, so that the required characteristics remain despite wear;
- by design of the load bearing elements, a safe operation of the machine is assured for loading ranging from zero to, the dynamic operation maximum working load and static loading, to the maximum static load;
- to ensure the safe functioning, the operating temperature range of the equipment has to 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.
- negotiations have been made between the customer and the manufacturer about:
 - environmental conditions;
 - civil engineering problems;
 - 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).

1 Scope

1.1 This European Standard deals with safety requirements for construction, manufacturing, 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, wire ropes, chains, screw and nut, friction/traction between wheels and the rail, guided chain, scissors mechanism or hydraulic jack (direct or indirect);
- with enclosed liftways;
- with a speed not greater than 0,15 m/s;
- with platforms where the carrier is not completely enclosed.

1.2 This standard 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).

1.3 This European Standard 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;
- fire fighting, evacuation and behaviour during a fire;
- noise and vibrations;
- the design of concrete, hardcore, timber or other foundation or building arrangement;
- the design of anchorage bolts to the supporting structure;
- type C wheelchairs as defined in EN 12183 and/or EN 12184.
- NOTE For the actual type of machinery, noise is not considered a significant nor relevant hazard.

1.4 This standard 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.