AS 1735.1.2:2021
EN 81-20:2020

Australian STANDARD®

STANDARDS Australia

Lifts, escalators and moving walks

Part 1.2: Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods — Passenger and goods passenger lifts

This national standard is the identical adoption of EN 81 20:2020 with the permission of the European Committee for Standardization — CEN, Rue de la Science 23, B — 1040 Brussels, Belgium.

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Australian Elevator Association
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Lift Engineering Society of Australia

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First published as AS 1735.1.2:2021.

Preface

This Standard was prepared by the Standards Australia Committee ME-004, Lift Installations.

The objective of this document is to specify the safety rules for permanently installed new passenger or goods passenger lifts, with traction, positive or hydraulic drive, serving defined landing levels, having a car designed for the transportation of persons or persons and goods, suspended by ropes, chains or jacks and moving between guide rails inclined not more than 15° to the vertical.

In addition to the requirements of this document, supplementary requirements have to be considered in special cases (use of lifts by persons with disabilities, in case of fire, potentially explosive atmosphere, extreme climate conditions, seismic conditions, transporting dangerous goods, etc.).

This document does not cover —

(a) Lifts with:

  (i) Drive systems other than those stated in Clause 1.1.

  (ii) Rated speed ≤ 0.15 m/s.

(b) Hydraulic lifts with:

  (i) A rated speed exceeding 1 m/s.

  (ii) The setting of the pressure relief valve (Clause 5.9.3.5.3) exceeding 50 MPa.

(c) New passenger or goods passenger lifts in existing buildings where in some circumstances due to limitations enforced by building constraints, some requirements of this document cannot be met and EN 81-21 should be considered.

  NOTE Existing building is a building which is used or was already used before the order for the lift was placed. A building whose internal structure is completely renewed is considered as a new building.

(d) Lifting appliances, such as paternosters, mine lifts, theatrical lifts, appliances with automatic caging, skips, lifts and hoists for building and public works sites, ships' hoists, platforms for exploration or drilling at sea, construction and maintenance appliances or lifts in wind turbines.

(e) Important modifications (see Annex C) to a lift installed before this document is brought into application.

(f) Safety during operations of transport, erection, repairs, and dismantling of lifts.

However, this document may usefully be taken as a basis.

Noise and vibrations are not dealt with in this document as they are not found at levels which could be considered as harmful with regard to the safe use and maintenance of the lift (see also Clause 0.4.2).

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

This document is identical with, and has been reproduced from, 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.*

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

(i) In the source text "this European Standard" should read "this document".

(ii) 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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European foreword

This document (EN 81-20:2020) 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 August 2020, and conflicting national standards shall be withdrawn at the latest by February 2022.

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 81-20:2014.

This document is a revision of EN 81-20:2014. Significant changes made are as follows:

— All externally referenced standards have now been dated.

— A new Annex ZA has been developed in order to be aligned with the requirements of the EU Commission Standardization Request “M/549 C(2016) 5884 final”.

No technical changes have been made during this revision.

This standard is the culmination of the progressive development of the EN standards for lifts. Previous versions of the EN 81-1 and EN 81-2 standards incorporated into EN 81-20:2020 and EN 81-50:2020 include:

— EN 81-1:1985, Safety rules for electric lifts

— EN 81-1:1998, Safety rules for electric lifts

— EN 81-1:1998, Corrigendum No 1:1999;

— EN 81-1:1998/A1:2005, incorporating programmable electronic system in safety related applications for lifts;

— EN 81-1:1998/A2:2004, incorporating machine-room-less lifts;

— EN 81-1:1998+A3:2009, incorporating unintended car movement with open doors;

— EN 81-2:1987, Safety rules for hydraulic lifts

— EN 81-2:1998, Safety rules for hydraulic lifts

— EN 81-2:1998, Corrigendum No 1:1999;

— EN 81-2:1998/A1:2005, incorporating programmable electronic system in safety related applications for lifts;

— EN 81-2:1998/A2:2004, incorporating machine-room-less lifts;

— EN 81-2:1998+A3:2009, incorporating unintended car movement with open doors.

This document is part of a series of standards giving safety rules for the construction and installation of lifts which are listed below.

Standard	Use
EN 81-21	Provides alternative technical requirements to those given in EN 81-20 to overcome certain specific problems encountered when installing lifts into existing buildings
EN 81-28	Provides the requirements for the alarm systems to be used on passenger carrying lifts to enable trapped persons to contact a rescue service.
EN 81-50	Used in conjunction with EN 81-20 to provide rules for type testing of safety related components and calculation methodology.
EN 81-58	Provides a unified method of testing the fire resistance of lift landing doors
EN 81-70	Provides additional requirements to EN 81-20 for accessible passenger lifts
EN 81-71	Provides additional requirements to EN 81-20 for vandal resistant lifts
EN 81-72	Provides additional requirements to EN 81-20 for lifts used by fire fighters
EN 81-73	Provides additional requirements to EN 81-20 for lifts used in the evacuation of disabled persons from buildings.
EN 81-77	Provides additional requirements to EN 81-20 for lifts subject to seismic conditions
EN 12015	Provides additional requirements to EN 81-20 for electromagnetic compatibility emissions
EN 12016	Provides additional requirements to EN 81-20 for electromagnetic compatibility immunity
EN 13015	Gives rules for the drafting of maintenance manuals to accompany lifts.

In addition CEN TR 81-10 gives information with regard to the structure of the EN 81 series of standards.

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 EU Directive(s).

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

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, Turkey and the United Kingdom.

0 Introduction

0.1 General

This standard is a type C standard as stated in EN ISO 12100.

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

0.2 General remarks

0.2.1 The object of this standard is to define safety rules related to passenger and goods passenger lifts with a view to safeguarding persons and objects against the risk of accidents associated with the normal use, maintenance and emergency operation of lifts.

0.2.2 A study has been made of the various possible hazards with lifts, see Clause 4.

0.2.2.1 Persons to be safeguarded:

a) users, including passengers and competent and authorized persons, e.g. maintenance and inspection personnel (see EN 13015);

b) persons in the surrounding area of the well, or any machine room and pulley room, who may be effected by the lift.

0.2.2.2 Property to be safeguarded:

a) loads in car;

b) components of the lift installation;

c) building in which the lift is installed;

d) the immediate surrounding area of the lift installation.

NOTE EN 81-71 gives additional requirements covering lifts resistant to acts of vandalism and EN 81-77 gives additional requirements covering lifts in seismic conditions.

0.2.3 When the weight, size and/or shape of components prevent them from being moved by hand, they are:

a) either fitted with attachments for lifting gear; or

b) designed so that they can be fitted with such attachments (e.g. by means of threaded holes); or

c) shaped in such a way that standard lifting gear can easily be attached.