

AS 1735.20:2020
EN 81-21:2018



Lifts, escalators and moving walks

Part 20: Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods — New passenger and goods passenger lifts in existing building

This Australian Standard is the identical adoption of EN 81-21:2018, with the permission of the European Committee for Standardization — CEN, Rue de la Science 23, B — 1040 Brussels, Belgium.



AS 1735.20:2020

This Australian Standard® was prepared by ME-004, Lift Installations. It was approved on behalf of the Council of Standards Australia on 26 August 2020.

This Standard was published on 11 September 2020.

The following are represented on Committee ME-004:

- Association of Consultants in Access Australia
- Australasian Fire and Emergency Service Authorities Council
- Australian Building Codes Board
- Australian Chamber of Commerce and Industry
- Australian Elevator Association
- Australian Industry Group
- Communications, Electrical and Plumbing Union — Electrical Division
- Engineers Australia
- Lift Engineering Society of Australia
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This Standard was issued in draft form for comment as DR AS 1735.20:2020.

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ISBN 978 1 76072 970 7

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First published as AS 1735.20:2020.

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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 related to new passenger and goods/passenger lifts permanently installed in existing buildings where in some circumstances due to limitations enforced by building constraints, some requirements of EN 81-20:2014 cannot be met.

This document covers a number of these constraints and gives requirements for alternative solutions. It is intended to be read and applied in conjunction with EN 81-20:2014.

This document covers the following:

- (a) Construction and installation of one or more complete new lift(s) including new well and machinery spaces in an existing building.
- (b) Replacement of one or more existing lift(s) by new ones in existing well(s) and machinery spaces.

This document does not cover—

- (i) replacement or modifications of some parts to a lift already installed; and
- (ii) other applications outside of the scope of EN 81-20:2014.

This document is identical with, and has been reproduced from, EN 81-21:2018, *Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods — Part 21: New passenger and goods passenger lifts in existing building*.

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.

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 81-21:2018) 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 September 2018 and conflicting national standards shall be withdrawn at the latest by September 2018.

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 81-21:2009+A1:2012.

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.

The main changes with respect to the previous edition (EN 81-21:2009+A1:2012) are as follows:

- updating of references and their associated requirements with regard to EN 81-20:2014;
- removal of duplicated text in reference to the requirements for refuge spaces expressed in EN 81-20:2014;
- replacement of Annex ZA with regard to the commission mandate M/549/C(2016) 5844 Final and Directive 2014/33/EU.

This standard is part of the EN 81 series of standards “*Safety rules for the construction and installation of lifts*”. This is the second edition.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

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

When provisions of this type C standard are different from those 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.

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

Where one or several requirements in EN 81-20:2014 cannot be fulfilled, due to reasons such as the constraints of the structure of the existing building, the corresponding requirements in this European Standard apply. According to section 2.2 of Annex I to the Lifts Directive, the application of alternative measures to prevent the risk of crushing above and underneath the lift car is restricted to installations where the requirement for free space or refuge is impossible to fulfil and may be subject to prior approval by national authorities.

The main concern dealt with in this standard is the reduction of top and pit clearances that may be required due to site conditions. The adopted principle of safety is based on two levels of achievement: first by means of an electrical stopping of the lift car, then by means of a mechanical stopping of the lift car.

When drafting this standard, it has been considered for reduced overhead and pit the following:

- a) Risk reduction measures that rely solely on operations in compliance with procedures are considered as not acceptable, except in a few situations in which mistake-proof solutions are not available (e.g. some activities in repair and installation in which safety devices cannot be operational);
- b) The risk reduction measures are automatically (without any intervention) activated, or may be manually activated if mistake-proof-by-design, or a combination of both is used.

1 Scope

This European Standard specifies the safety rules related to new passenger and goods/passenger lifts permanently installed in existing buildings where in some circumstances due to limitations enforced by building constraints, some requirements of EN 81-20:2014 cannot be met.

This European Standard addresses a number of these constraints and gives requirements for alternative solutions. It will be read and applied in conjunction with the European Standard EN 81-20:2014.

This European Standard covers:

- either the construction and installation of one or more complete new lift(s) including new well and machinery spaces in an existing building; or
- the replacement of one or more existing lift(s) by new ones in existing well(s) and machinery spaces.

This European Standard does not cover:

- replacement or modifications of some parts to a lift already installed;
- other applications outside of the scope of EN 81-20:2014.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 81-20:2014 *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 ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

EN ISO 13857:2008, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2008)*

ISO 3864-1:2011, *Graphical symbols - Safety colours and safety signs - Part 1: Design principles for safety signs and safety markings*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010, EN 81-20:2014 and the following apply.

3.1 existing building

building, which is used or was already used before the order for the lift was placed

Note 1 to entry: A building whose internal structure is completely renewed is considered as a new building.