AS 1735.1.4:2021
EN 81-80:2019

Australian STANDARD®

STANDARDS Australia

Lifts, escalators and moving walks

Part 1.4: Safety rules for the construction and installation of lifts — Existing lifts — Rules for the improvement of safety of existing passenger and goods passenger lifts

This national standard is the identical adoption of EN 81-80:2019 with the permission of the European Committee for Standardization — CEN, Rue de la Science 23, B — 1040 Brussels, Belgium.

AS 1735.1.4:2021

This Australian Standard ® was prepared by ME-004, Lift Installations. It was approved on behalf of the Council of Standards Australia on 13 September 2021.

This Standard was published on 24 September 2021.

The following are represented on Committee ME-004:

Association of Consultants in Access Australia
Australasian Fire and Emergency Service Authorities Council
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

This Standard was issued in draft form for comment as DR AS 1735.1.4:2021.

Keeping Standards up-to-date

Ensure you have the latest versions of our publications and keep up-to-date about Amendments, Rulings, Withdrawals, and new projects by visiting:
www.standards.org.au

ISBN 978 1 76113 512 5

AS 1735.1.4:2021
EN 81-80:2019

Lifts, escalators and moving walks

Part 1.4: Safety rules for the construction and installation of lifts — Existing lifts — Rules for the improvement of safety of existing passenger and goods passenger lifts

First published as AS 1735.1.4:2021.

Preface

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

The objective of this document is to provide a methodology for improving the safety of existing lifts with the aim of reaching an equivalent level of safety to that of a newly installed lift by the application of today's state-of-the-art for safety.

Due to situations such as the building design, etc. it may not be possible in all cases to reach today's state-of-the-art for safety.

This document applies to permanently installed 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 and moving along guide rails inclined not more than 15° to the vertical.

This document includes the improvement of safety of existing lifts for —

(a) passengers;

(b) maintenance and inspection personnel;

(c) persons outside the well, machinery space(s) and the pulley room(s) (but in their immediate vicinity); and

(d) any other authorized persons.

This document does not apply to the following:

(i) Lifts with drive systems others than those mentioned above.

(ii) Lifting appliances such as paternosters, mine lifts, theatre 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.

(iii) Installations where the inclination of the guide rails to the vertical exceeds 15°.

(iv) Lifting appliances with a rated speed lower than or equal to 0.15 m/s.

(v) Safety during transport, installation, repairs and dismantling of lifts.

However, this document can usefully be taken as a reference basis.

This document is identical with, and has been reproduced from, EN 81-80:2019, *Safety rules for the construction and installation of lifts - Existing lifts - Part 80: Rules for the improvement of safety of existing passenger and goods passenger lifts.*

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.

NOTES

Contents

Page

European foreword

This document (EN 81-80:2019) 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 February 2020, and conflicting national standards shall be withdrawn at the latest by August 2021.

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 81-80:2003.

EN 81-80:2019 is a full revision of the standard which reflects developments since the publication of EN 81-80:2003 and experience gained from its application. The main changes can be identified as:

— eleven new hazards have been added which are now covered in EN 81-20 or which have been identified by risk assessment;

— due to these new hazards the numbering has been changed in order to keep a logical order of hazards following the sequence in EN 81-20:—; however for tracking purposes the hazard numbers of EN 81-80:2003 are listed in a separate column;

— the methodology for the identification of hazards, the evaluation of the hazardous situations and the risk levels as well as the classification of priority levels including the filtering process have been moved to Clause 5;

— all technical requirements for protective measures have been incorporated in the checklist in the normative Annex A which combines now the previous chapter 5 and the previous checklist in Annex A; this combination prevents duplication of technical requirements in the standard and allows simplification of its use;

— the checklist also contains a column in which the risk levels and subsequent priority levels for items in compliance with EN 81-1:1998 and EN 81-2:1998 or items upgraded according to EN 81-80:2003 are listed in relation to today’s state-of-the-art according to EN 81-20:—.

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 Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Introduction

This document was developed to establish a methodology to specify at national level procedures for improving the safety of existing lifts. A word of explanation:

a) Background of this document:

More than 6 million lifts are in use today (2019) in Europe and approximately 50 % were installed more than 20 years ago.

Lifts were installed to the safety level appropriate at time of installation. This level is often lower than today's state-of-the-art for safety.

New technologies, experiences and social expectations have led to today's state-of-the-art for safety. This has led to the situation today with different levels of safety, causing accidents. However, users and authorized persons expect a common minimum level of safety wherever they go.

In addition, there is a growing trend for people to live longer and for disabled people to expect access and design for all. Therefore it is especially important to provide a safe means of vertical transport for elderly and disabled persons.

Lift attendants and in many cases building caretakers are not so common anymore, so it is important that relevant safety features for the rescue of trapped persons should be provided.

Furthermore the life cycle of a lift is longer than most other transportation systems and building equipment, which therefore means that lift design, performance and safety can fall behind modern technologies. If existing lifts are upgraded to today's state-of-the-art for safety, the number of injuries is very likely to decrease (especially in buildings which can be accessed by the general public).

b) The approach behind the creation of this document:

This document:

1) categorizes various hazards and hazardous situations, each of which has been analysed by a risk assessment;

2) is intended to provide corrective actions to progressively and selectively improve, step by step, the safety of all existing passenger and goods passenger lifts towards today's state-of-the-art for safety;

3) enables each lift to be audited and safety measures to be identified and implemented in a step by step and selective fashion according to the frequency and severity of any single risk;

4) lists the high, medium and low risks and corrective actions which can be applied in separate steps in order to mitigate the risks.

Other designs to previous national regulations or standards, providing they have an equivalent safety level, may be acceptable.

c) Use of this document:

This document can be used as a guideline for:

1) national authorities to determine their own programme of implementation in a step by step process via a filtering process (see Clause 5) in a reasonable and practicable[1)] way based on the level of risk (e.g. high, medium, low) and social and economic considerations;

2) owners to follow their responsibilities according to existing regulations;

3) maintenance companies and/or inspection bodies to inform the owners on the safety level of their installations and to propose risk reduction measures;

4) owners to upgrade their existing lifts on a voluntary basis in accordance with 3) if no regulations exist.

NOTE 1 Owner of the installation: natural or legal person who has the power of disposal of the installation and takes the responsibility for its operation and use.

In making an audit of an existing lift installation Annex A can be used to identify the hazards and corrective actions in this document. However, where a hazardous situation is identified which is not covered in this document a separate risk assessment should be made. This risk assessment should be based on EN ISO 14798.

NOTE 2 The risk profile according to EN ISO 14798 has been slightly modified in order to define different priorities for the upgrading of items on existing lifts depending on the risk levels of the existing means (see 5.3 and 5.4). The probability level D is covering a large range of probabilities between level C and level E. Due to this reason the largest number of risks in existing lifts would fall into level D. Therefore level D has been split into 3 smaller sub-levels C-D, D and D-E. Higher probalilities C-D which may lead to a high number of incidents are close to C and therefore are considered with high priority for severities 1 and 2 and with medium priority for severity 3. Lower probabilities D-E where only very few incidents may be expected being close to E are considered with medium priority for severity 1 in between high for 1 D and low for 1 E and with low priority for severity 2 as for 2 E.

1) "Reasonable and practicable" is defined as follows: "In deciding what is reasonable and practicable the seriousness of a risk to injury should be weighed against the difficulty and cost of removing or reducing that risk. Where the difficulty and cost are high, and a careful assessment shows that the risk is rather low, short or medium term action may not need to be taken. On the other hand where the risk is high, action should be taken at whatever cost."

1 Scope

This document gives a methodology for improving the safety of existing lifts with the aim of reaching an equivalent level of safety to that of a newly installed lift by the application of today's state-of-the-art for safety.

NOTE Due to situations such as the building design, etc. it may not be possible in all cases to reach today's state-of-the-art for safety.

This document applies to permanently installed 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 and moving along guide rails inclined not more than 15° to the vertical.

This document includes the improvement of safety of existing lifts for:

a) passengers;

b) maintenance and inspection personnel;

c) persons outside the well, machinery space(s) and the pulley room(s) (but in their immediate vicinity);

d) any other authorized persons.

This document is not applicable to:

e) lifts with drive systems others than those mentioned above;

f) lifting appliances such as paternosters, mine lifts, theatre 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;

g) installations where the inclination of the guide rails to the vertical exceeds 15°;

h) lifting appliances with a rated speed lower than or equal to 0,15 m/s;

i) safety during transport, installation, repairs and dismantling of lifts.

However, this document can usefully be taken as a reference basis.

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:—,[2] *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 81-21:2018, *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*

[2] Under preparation. Stage at time of publication: prEN 81-20:2018.