FINAL DRAFT
International Standard

ISO/FDIS 8104-1

Improvement of safety and accessibility on existing lifts, escalators and moving walks —

Part 1: Improvement of safety of passengers and goods passenger lifts

Amélioration de la sécurité et de l'accessibilité des ascenseurs, escaliers mécaniques et trottoirs roulants existants —

Partie 1: Amélioration de la sécurité des ascenseurs et des ascenseurs de charge existants

ISO/TC **178**

Secretariat: **AFNOR**

Voting begins on:
2026-08-26

Voting terminates on:
2026-10-21

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

Reference number
ISO/FDIS 8104-1:2026(en)

© ISO 2026



COPYRIGHT PROTECTED DOCUMENT

© ISO 2026

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

Foreword ..... **iv**
Introduction ..... **v**
1 Scope **1**
2 Normative references **2**
3 Terms and definitions **2**
4 List of significant hazards **2**
5 Methodology for improving the safety of existing lifts **5**
5.1 General 5
5.2 Identification of hazardous situations 6
5.3 Evaluation of hazardous situations 6
5.4 Classification of priority levels 8
6 Verification of safety measures and/or protective devices **9**
7 Information for use **9**
Annex A (normative) **Safety checklists for existing lifts** **10**
Bibliography **50**

© ISO 2026 – All rights reserved

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 178, *Lifts, escalators and moving walks*.

A list of all parts in the ISO 8104 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

© ISO 2026 – All rights reserved

Introduction

0.1 General

This document was developed to establish a methodology to support procedures for improving the safety of existing lifts.

0.2 Background of this document

More than 23 million lifts are in use today in the world.

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. 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 are 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).

0.3 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, can also support this approach.

0.4 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;

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."

© ISO 2026 – All rights reserved

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 ISO 14798.

NOTE 2 The risk profile according to 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 probabilities C-D which can 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 can 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.

© ISO 2026 – All rights reserved

Improvement of safety and accessibility on existing lifts, escalators and moving walks —

Part 1: Improvement of safety of passengers and goods passenger lifts

1 Scope

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

This document prioritizes improvements of safety based on objective hazard analysis but does not define a methodology for achieving full conformity to current standards for new installations.

NOTE Due to situations, such as the building design, etc. it is not always possible 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.

1.2 This document is not applicable to:

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

f) hydraulic lifts:

   1) with a rated speed exceeding 1 m/s;

   2) where the setting of the pressure relief valve exceeds 50 MPa;

g) 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;

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

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

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

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

© ISO 2026 – All rights reserved

1.3 This document does not cover:

a) improvement of safety for specific items like vandalism, seismic conditions, fire issues, etc.;

b) improvement of accessibility.

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.

ISO 8100-1:2019[2)], *Lifts for the transport of persons and goods — Part 1: Safety rules for the construction and installation of passenger and goods passenger lifts*

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

ASME A17.1-2022/CSA B44:22, *Safety Code for Elevators and Escalators*

ASME A17.3-2020, *Safety Code for Existing Elevators and Escalators*

ASME A17.7-2007/CSA B44:07 (R2012), *Performance-Based Safety Code for Elevators and Escalators*

EN 81-21:2022, *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*

EN 81-28:2022, *Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods — Part 28: Remote alarm on passenger and goods passenger lifts*

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

JIS A 4307-1:2019, *Lifts for the transport of persons and goods — Part 1: Passenger and goods passenger lifts*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 8100-1and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
existing lift
lift which is in service

4 List of significant hazards

This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this document, identified by risk assessments as significant for existing lifts and which require action to eliminate or reduce the risk.

2) Cancelled and replaced by ISO 8100-1:2026.

© ISO 2026 – All rights reserved