
Safety requirements for lifts (elevators) —

Part 2:

**Safety parameters meeting the global
essential safety requirements (GESRs)**

Exigences de sécurité des ascenseurs —

*Partie 2: Paramètres de sécurité répondant aux exigences essentielles
de sécurité globale des ascenseurs*



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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In other circumstances, particularly when there is an urgent market requirement for such documents, a technical committee may decide to publish other types of document:

- an ISO Publicly Available Specification (ISO/PAS) represents an agreement between technical experts in an ISO working group and is accepted for publication if it is approved by more than 50 % of the members of the parent committee casting a vote;
- an ISO Technical Specification (ISO/TS) represents an agreement between the members of a technical committee and is accepted for publication if it is approved by 2/3 of the members of the committee casting a vote.

An ISO/PAS or ISO/TS is reviewed after three years in order to decide whether it will be confirmed for a further three years, revised to become an International Standard, or withdrawn. If the ISO/PAS or ISO/TS is confirmed, it is reviewed again after a further three years, at which time it must either be transformed into an International Standard or be withdrawn.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO/TS 22559-2 was prepared by Technical Committee ISO/TC 178, *Lifts, escalators and moving walks*.

ISO/TS 22559 consists of the following parts, under the general title *Safety requirements for lifts (elevators)*:

- *Part 1: Global essential safety requirements (GESRs)*
- *Part 2: Safety parameters meeting the global essential safety requirements (GESRs)*

The following parts are under preparation:

- *Part 3: Global conformity assessment procedures (GCAP) — General requirements*
- *Part 4: Global conformity assessment procedures (GCAP) — Certification and accreditation requirements*

Introduction

This part of ISO/TS 22559 was prepared in response to the need to set global safety parameters for lifts (elevators).

The objective of ISO/TS 22559 (all parts) is to:

- a) define a common global level of safety for all people using, or associated with, lifts (elevators);
- b) facilitate innovation of lifts (elevators) not designed according to existing local, national or regional safety standards, while maintaining equivalent levels of safety. If such innovations become state of the art, they can be integrated into the detailed local safety standard at a later date;
- c) help remove trade barriers.

ISO/TS 22559-1 establishes global essential safety requirements (GESRs) for lifts (elevators) by addressing hazards and risks that can be encountered on a lift (elevator). The GESRs, however, state only the safety objectives of a lift (elevator).

This part of ISO/TS 22559 provides guidance and criteria for achieving conformance with safety requirements of GESRs by specifying global safety parameters (GSPs) for use and implementation, where applicable, in a lift (elevator) to eliminate hazards or mitigate safety risks addressed in the GESRs. However, GSPs are not mandatory.

Clause 4 describes the approach and methodology used in the development of this part of ISO/TS 22559. Clause 5 gives instructions for the use and implementation of GSPs. The GSPs are presented in Clause 6 in the sequence of GESRs in ISO/TS 22559-1.

This part of ISO/TS 22559 is a product safety standard in accordance with ISO/IEC Guide 51.

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Safety requirements for lifts (elevators) —

Part 2:

Safety parameters meeting the global essential safety requirements (GESRs)

1 Scope

1.1 This part of ISO/TS 22559:

- a) specifies global safety parameters (GSPs) for lifts (elevators), their components and their functions;
- b) complements the system and methods specified in ISO/TS 22559-1 for mitigating safety risks that can arise in the course of the operation and use of, or work on, lifts (elevators).

NOTE Hereinafter, the term “lift” is used instead of the term “elevator”.

1.2 This part of ISO/TS 22559 is applicable to lifts that can

- a) be located in any permanent and fixed structure within or attached to a building, except lifts located in
 - 1) private residences (single family units), or
 - 2) means of transport, e.g. ships,
- b) have any
 - 3) rated load, size of load-carrying unit (LCU) and speed, and
 - 4) travel distance and number of landings,
- c) be affected by fire in the load-carrying unit, earthquakes, weather or floods,
- d) be foreseeably misused (e.g. overloaded), but not vandalized.

1.3 This part of ISO/TS 22559 does not specifically cover

- a) all the needs of users with disabilities¹⁾, or
- b) risks arising from
 - 1) work on lifts under construction, during testing, or during alterations and dismantling,
 - 2) use of lifts for firefighting and emergency evacuation,
 - 3) vandalism,
 - 4) fire outside the LCU,
 - 5) explosive atmosphere,
 - 6) transportation of dangerous goods.

1) Although the GESRs mentioned in this part of ISO/TS 22559 have been identified and evaluated by risk assessment, not all disabilities or combinations of disabilities of users have necessarily been addressed.

2 Normative references

The following referenced documents are indispensable for the application 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 13857:2008, *Safety of machinery — Safety distances to prevent hazard zones being reached by upper and lower limbs*

ISO 14119, *Safety of machinery — Interlocking devices associated with guards — Principles for design and selection*

ISO 14120:2002, *Safety of machinery — Guards — General requirements for the design and construction of fixed and movable guards*

ISO 14122-2:2001, *Safety of machinery — Permanent means of access to machinery — Part 2: Working platforms and walkways*

ISO 14122-3:2001, *Safety of machinery — Permanent means of access to machinery — Part 3: Stairs, stepladders and guard-rails*

ISO 14122-4, *Safety of machinery — Permanent means of access to machinery — Part 4: Fixed ladders*

ISO 14798:2009, *Lifts (elevators), escalators and moving walks — Risk assessment and reduction methodology*

ISO 15534-1, *Ergonomic design for the safety of machinery — Part 1: Principles for determining the dimensions required for openings for whole-body access into machinery*

ISO 15534-2, *Ergonomic design for the safety of machinery — Part 2: Principles for determining the dimensions required for access openings*

ISO 15534-3, *Ergonomic design for the safety of machinery — Part 3: Anthropometric data*

ISO 22199, *Electromagnetic compatibility — Product family standard for lifts, escalators and moving walks — Emission*

ISO 22200, *Electromagnetic compatibility — Product family standard for lifts, escalators and moving walks — Immunity*

ISO/TS 22559-1:2004, *Safety requirements for lifts (elevators) — Part 1: Global essential safety requirements (GESRs)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 authorized person
person with authorization to access restricted lift areas [e.g. machinery spaces, lift well (hoistway), pit and LCU top] and to work therein, for the purpose of inspecting, testing, repairing, and maintaining the lift or for rescuing users from a stalled load-carrying unit (LCU)

[ISO/TS 22559-1:2004, definition 3.1]

3.2 cause
circumstance, condition, event, or action that in a hazardous situation contributes to the production of an effect

[ISO 14798:2009, definition 2.1]