

norm**NEN-EN 81-80**

Veiligheidsregels voor de vervaardiging en de installatie van liften - Bestaande liften - Deel 80: Regels voor de verhoging van veiligheid van bestaande personen- en personen-goederenliften

Publicatie uitsluitend voor commentaar

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

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

DRAFT
prEN 81-80

December 2016

ICS 91.140.90

Will supersede EN 81-80:2003

English Version

**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**

Règles de sécurité pour la construction et l'installation
des ascenseurs - Ascenseurs existants - Partie 80 :
Règles pour l'amélioration de la sécurité des
ascenseurs et des ascenseurs de charge existants

Sicherheitsregeln für die Konstruktion und den Einbau
von Aufzügen - Bestehende Aufzüge - Teil 80: Regeln
für die Erhöhung der Sicherheit bestehender
Personen- und Lastenaufzüge

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 10.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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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.

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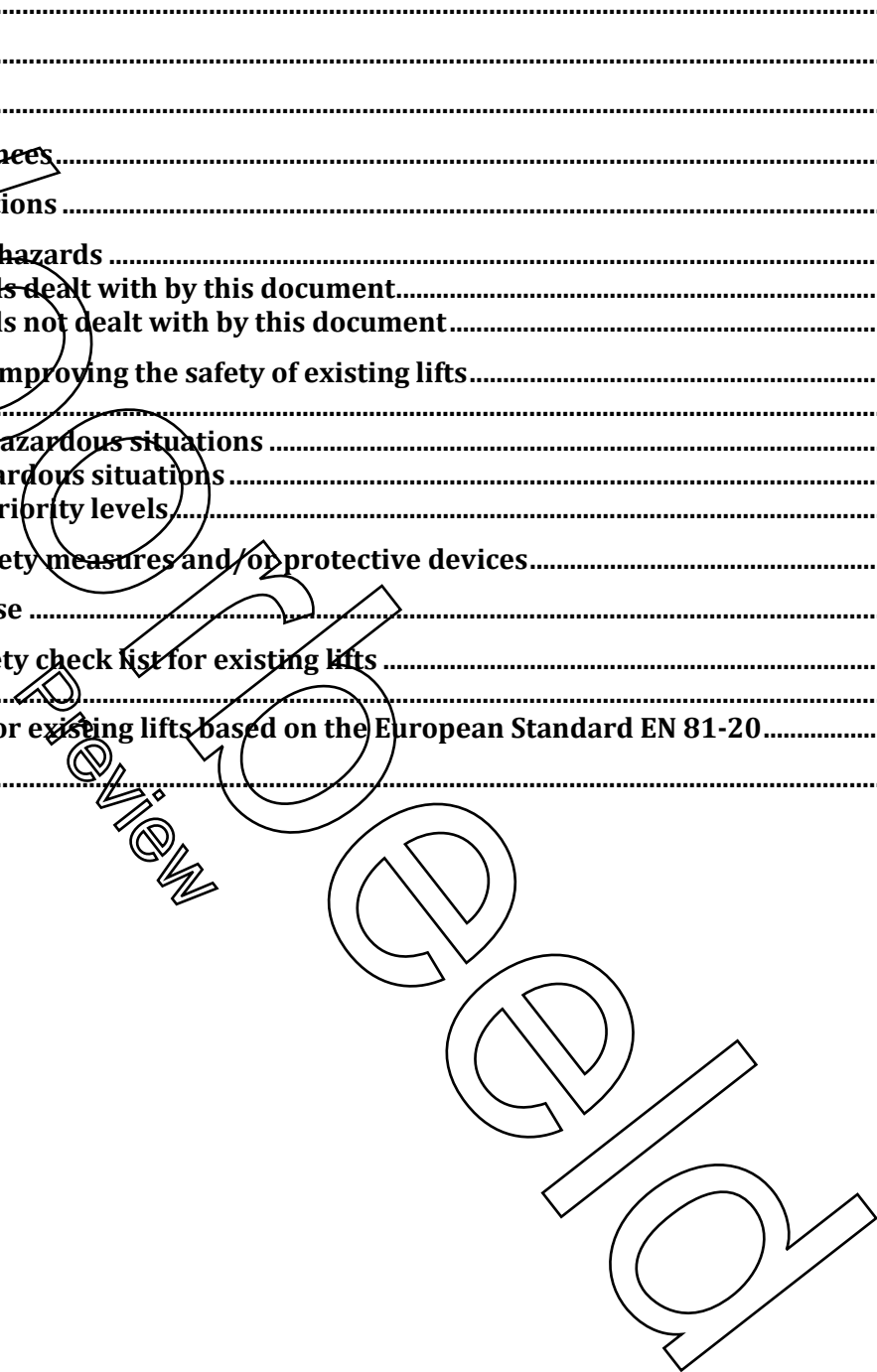
EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

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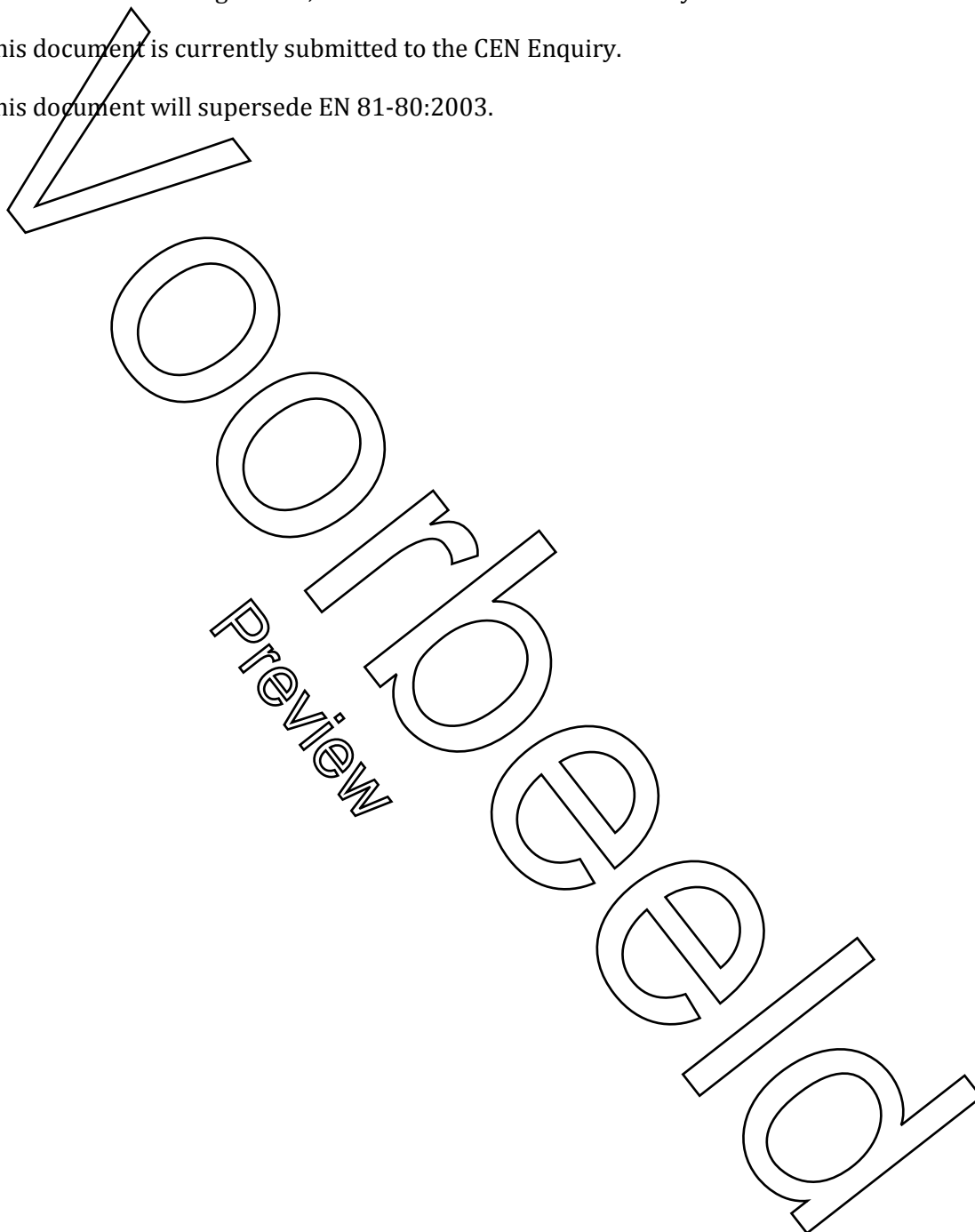


European foreword

This document (prEN 81-80:2016) has been prepared by Technical Committee CEN/TC 10 “Lifts, escalators and moving walks”, the secretariat of which is held by AFNOR.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 81-80:2003.



Introduction

This document was developed for documenting a methodology to define at national level the minimum safety level to which already in use, so called existing lifts, preferably would have to comply with.

A word of explanation:

a) Background of this document:

More than 15 million lifts are in use today (2016) worldwide and approximately 50 % were installed more than 30 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 of different levels of safety, causing accidents. However, users and authorized persons expect a common acceptable 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 disabled and elderly 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 of safety, the number of injuries will 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 its own programme of implementation in a step by step process via a filtering process (see Clause 5) in a reasonable and practicable¹⁾ 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;
- 4) owners to upgrade the existing lifts on a voluntary basis in accordance with c) if no regulations exist.

NOTE 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 the appropriate annex 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 or equivalent.

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1) "Reasonable and practicable" is defined as follows: "In deciding what is reasonably 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 costs are high, and a careful assessment of the risk shows it to be comparatively unimportant, action may not need to be taken. On the other hand where the risk is high, action should be taken at whatever cost."

prEN 81-80:2016 (E)**1 Scope**

This draft European Standard 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 draft European Standard applies for 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 between 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 and the pulley room (but in their immediate vicinity);
- d) any 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 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, 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 81-1, *Safety rules for the construction and installation of lifts — Part 1: Electric lifts*

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 81-21, *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 81-50, *Safety rules for the construction and installation of lifts — Examinations and tests — Part 50: Design rules, calculations, examinations and tests of lift components*

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

EN 81-72, *Safety rules for the construction and installation of lifts — Particular applications for passenger and goods passenger lifts — Part 72: Firefighters lifts*

EN 81-73, *Safety rules for the construction and installation of lifts — Particular applications for passenger and goods passenger lifts — Part 73: Behaviour of lifts in the event of fire*

EN 81-77, *Safety rules for the construction and installations of lifts — Particular applications for passenger and goods passenger lifts — Part 77: Lifts subject to seismic conditions*

EN 81-82, *Safety rules for the construction and installation of lifts — Existing lifts — Part 82: Rules for the improvement of the accessibility of existing lifts for persons including persons with disability*

CEN/TS 81-83, *Safety rules for the construction and installation of lifts — Existing lifts — Part 83: Rules for the improvement of the resistance against vandalism*

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

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in the normative references and the following apply.

3.1

existing lift

lift which is in service

4 List of significant hazards

4.1 Significant hazards dealt with by this document

This clause contains a non-exhaustive list of significant hazards, hazardous situations and events. The list addressed by Table 1 shall be considered as a minimum. The list is identified by risk assessments as significant for existing lifts and requires action to mitigate the risk. See the relevant annex and the corresponding standards for a more detailed list.

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