Liftide ehituse ja paigaldamise ohutusnõuded. Inimeste ja kauba transpordi liftid. Eriseaded reisi- ja kaubaliftidele. Osa 70: Reisijate liftis abivahendid puudega inimestele

Safety rules for the construction and installations of lifts - Part 70: Particular applications for passenger and good passenger lifts - Accessibility to lifts for persons including persons with disability



# **EESTI STANDARDI EESSÕNA**

# **NATIONAL FOREWORD**

| Käesolev Eesti standard EVS-EN 81-    |
|---------------------------------------|
| 70:2003 sisaldab Euroopa standardi EN |
| 81-70:2003 ingliskeelset teksti.      |

Käesolev dokument on jõustatud 06.06.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN 81-70:2003 consists of the English text of the European standard EN 81-70:2003.

This document is endorsed on 06.06.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

#### Käsitlusala:

This European Standard specifies the minimum requirements for the safe and independent access and use of lifts by persons, including persons with the disabilities mentioned in annex B, Table B.1. This European Standard covers lifts with minimum car dimensions according to Table 1 and provided with car doors and landing doors constructed as automatic power operated horizontally sliding doors

## Scope:

This European Standard specifies the minimum requirements for the safe and independent access and use of lifts by persons, including persons with the disabilities mentioned in annex B, Table B.1. This European Standard covers lifts with minimum car dimensions according to Table 1 and provided with car doors and landing doors constructed as automatic power operated horizontally sliding doors

ICS 91.140.90

**Võtmesõnad:** definition, definitions, design, disabled persons, handicapped people, hoists, lifting equipment, mounting, operating instructions, passenger hoists, protective measures, safety, safety devices, safety measures, service lifts, specification (approval), specifications

# EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

EN 81-70

May 2003

ICS 91.140.90

#### **English version**

Safety rules for the construction and installations of lifts
Particular applications for passenger and good passengers lifts Part 70: Accessibility to lifts for persons including persons with
disability

Règles de sécurité pour la construction et l'installation des élévateurs - Applications particulières pour les ascenseurs et ascenseurs de charge - Partie 70: Accessibilité aux ascenseurs pour tous les usagers y compris les personnes avec handicap Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Besondere Anwendungen für Personen- und Lastenaufzüge - Teil 70: Zugänglichkeit von Aufzügen für Personen einschließlich Personen mit Behinderungen

This European Standard was approved by CEN on 21 November 2002.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

# Contents

|            | 0.  | page |
|------------|---|------|
| 0          | Introduction  | 4    |
| 0.1        | General   |      |
| 0.2        | Principles  |      |
| 0.3        | Assumptions   |      |
| 0.4        | Negotiations  |      |
| 1          | Scope   | 6    |
| 2          | Normative references  |      |
| 3          | Terms and definitions   | 7    |
| 4          | Significant hazards and barriers to accessibility                           | 7    |
| 5          | Safety requirements and/or protective measures                              |      |
| 5.1        | General   |      |
| 5.2        | Entrances - Door opening  |      |
| 5.3<br>5.4 | Car dimensions, equipment in the car, stopping/levelling accuracy           |      |
| 5.4        |   |      |
| 6          | Verification of safety requirements and / or protective measures            |      |
| 7          | Information for use   |      |
| 7.1        | General   | 15   |
| 7.2        | Information for the lift owner  |      |
| Annex      | A (informative) General remarks on accessibility                            | 16   |
| Annex      | B (normative) Categories of disabilities considered                         | 18   |
|            | C (normative) Risk analysis   |      |
| Annex      | D (informative) Materials likely to cause allergies                         | 21   |
| Annex      | E (informative) Guidelines regarding features for visually impaired persons | 22   |
|            | F (normative) Keypads   |      |
| Annex      | G (informative) Other devices   | 26   |
|            | ZA (informative) Relationship of this European Document with EC Directives  |      |
| Bibliog    | raphy   | 29   |
| J          | • •   |      |

# **Foreword**

This document (EN 81-70:2003) has been prepared by Technical Committee CEN/TC 10 "Passenger, escalators and moving walks", the secretariat of which is held by AFNOR.

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).

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 November 2003, and conflicting national standards shall be withdrawn at the latest by November 2003.

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, and of the state o Slovakia, Spain, Sweden, Switzerland and the United Kingdom.

Annexes A, D, E and G are informative.

Annexes B, C and F are normative.

#### 0 Introduction

#### 0.1 General

This European Standard is a type C standard as stated in EN 1070.

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

When provisions of this type C standard are different from those which are stated in type A or B standards, the provisions of this type C standard take precedence over the provisions of the other standards, for lifts that have been designed and built according to the provisions of this type C standard.

#### 0.2 Principles

In drawing up this standard the following have been used:

 a) the Working Group based its activities on a resolution (CEN/TC 10/1995/7) which added the issue of accessibility to the work programme of CEN/TC 10, namely the necessity of formulating requirements for the accessibility to lifts for persons including persons with disability.

This resolution was the result of a mandate given to CEN as mentioned in the Foreword. It was decided that it would cover the design and construction of cars etc. in such a way that their features would not obstruct or impede access and use by disabled people;

- b) the Working Group was composed of representatives of the European Disability Forum, National Standardisation Institutes and the Lift Industry. Data taken into account were:
  - demographic developments in Europe;
  - the tendency of living independently and its consequences;
  - the need for accessibility of buildings;
  - the recognition of the existence of a variety of disabilities with different solutions on spatial and orientational levels;
  - the combat of discrimination based on disability and age as mentioned in the non-discrimination clause (art 6a) of the Treaty of Amsterdam of the European Union.

The population of Europe is ageing and the prevalence of disability, including disability associated with the ageing process, is increasing. Older people and people with disabilities at present are estimated to number some 80 million people – a large and growing proportion of the European Union population. The changing demography presents both opportunities and challenges for the Union. The economic, social and cultural potential of older people and people with disabilities is underexploited at present. However there is a growing recognition that society needs to exploit this potential for the economic and social benefit of society generally.

The work has led to this standard on the accessibility to lifts for persons, including persons with disability.

General information on accessibility is given in annex A;

c) this standard does not only address the essential safety requirements of the Lift Directive, but additionally states minimum rules for the accessibility to lifts for persons including persons with disability. There may be in some countries regulations for the level of suitability of lifts which cannot be ignored. Typical clauses affected by this are those defining minimum sizes of cars; d) this European Standard describes three sizes of lifts offering different levels of accessibility to wheelchair users. The degree of accessibility and usability is provided by dimensions, spatial and technical criteria (see the European Concept for Accessibility referred to in Bibliography).

Further, this European Standard defines the design provisions for the lift and its user interface for the different stages of usage under normal operation.

NOTE Each Member State can, according to its social requirements and economical situation, select the appropriate size of lift from Table 1 as the minimum for a given type of building and define the application by law.

# 0.3 Assumptions

Intensive studies have been made on the different categories of disabilities to establish related hazards and their risks.

The Standard Rules of the Equalization of opportunities for persons with disabilities adopted by the United Nations General Assembly at its 48<sup>th</sup> session on 20 December 1993 (resolution 48/96) has also been considered. The requirements in this standard have been drawn up accordingly.

# 0.4 Negotiations

It is assumed that negotiations have been made for each contract between the customer and the supplier/installer about:

- a) the intended use of the lift;
- b) temporary activation of features of the lift;
- c) environmental conditions;
- d) civil engineering problems;
- e) other aspects related to the place of installation.

# 1 Scope

This European Standard specifies the minimum requirements for the safe and independent access and use of lifts by persons, including persons with the disabilities mentioned in annex B, Table B.1.

This European Standard covers lifts with minimum car dimensions according to Table 1 and provided with car doors and landing doors constructed as automatic power operated horizontally sliding doors.

This European Standard considers accessibility to lifts for persons using wheelchairs with maximum overall dimensions defined in EN 12183:1999 and EN 12184:1999.

This European Standard also deals with the additional technical requirements to minimise the hazards listed in clause 4 that arise during the operation of lifts intended to be accessible to disabled users.

NOTE This standard can be used as guidance for upgrading existing lifts in line with the recommendation of the European Commission dated 8<sup>th</sup> of June, 1995 (95/216/EC) concerning improvements to safety of existing lifts.

#### 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 81-1:1998, Safety rules for the construction and installation of lifts - Part 1: Electric lifts.

EN 81-2:1998, Safety rules for the construction and installation of lifts - Part 2: Hydraulic lifts.

prEN 81-5:1999, Safety rules for the construction and installation of lifts and service lifts - Part 5: Screw lifts.

prEN 81-6:1999, Safety rules for the construction and installation of lifts and service lifts - Part 6: Guided chain lifts.

prEN 81-7:1999, Safety rules for the construction and installation of lifts and service lifts - Part 7: Rack and pinion lifts.

prEN 81-21:1998, Safety rules for the construction and installation of lifts - Part 21: New passenger and goods passenger lifts in existing buildings.

prEN 81-28:2000, Safety rules for the construction and installation of lifts - Part 28: Remote alarms on passenger and goods passenger lifts.

EN 292-2:1991, Safety of machinery - Basic concepts, general principles for design - Part 2: Technical principles and specifications.

EN 1070:1998, Safety of machinery – Terminology.

EN 12183:1999, Manually propelled wheelchairs – Requirements and test methods.

EN 12184:1999, Electrically powered wheelchairs, scooters and their chargers – Requirements and test methods.

EN 13015:2001, Maintenance for lifts and escalators – Rules for maintenance instructions.

ISO 7000:1989, Graphical symbols for use on equipment - Index and synopsis.