

LIFTIDE VALMISTAMISE JA PAIGALDAMISE
OHUTUSEESKIRJAD. INIMESTE JA KAUBA TRANSPORDI
LIFTIDE ERIOTSTARBELISED RAKENDUSED. OSA 72:
TULETÕRJUJATE LIFTID

Safety rules for the construction and installation of lifts
- Particular applications for passenger and goods
passenger lifts - Part 72: Firefighters lifts

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 81-72:2020 sisaldab Euroopa standardi EN 81-72:2020 ingliskeelset teksti.	This Estonian standard EVS-EN 81-72:2020 consists of the English text of the European standard EN 81-72:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 22.07.2020.	Date of Availability of the European standard is 22.07.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 91.140.90

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

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

Règles de sécurité pour la construction et l'installation
des élévateurs - Applications particulières pour les
ascenseurs et ascenseurs de charge - Partie 72 :
Ascenseurs pompiers

Sicherheitsregeln für die Konstruktion und den Einbau
von Aufzügen - Besondere Anwendungen für
Personen- und Lastenaufzüge - Teil 72:
Feuerwehraufzüge

This European Standard was approved by CEN on 15 June 2020.

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 CEN-CENELEC 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 CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of 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 North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.



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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Contents

Page

European foreword.....	4
Introduction	5
1 Scope	6
2 Normative references	7
3 Terms and definitions	7
4 List of significant hazards	8
5 Safety requirements and/or protective measures	10
5.1 Environmentbuilding requirements.....	10
5.2 Fundamental firefighters lift requirements.....	11
5.3 Protection of electrical equipment against water (see Annex D).....	12
5.4 Rescue of trapped firefighters in the car	13
5.5 Hydraulic lifts used as firefighters lift.....	14
5.6 Car doors and landing doors	14
5.7 Lift machine and associated equipment	15
5.8 Control systems	15
5.9 Power supplies for firefighters lifts.....	19
5.10 Changeover and interruption of electrical supplies.....	19
5.11 Car and landing controls.....	19
5.12 Fire service communication system.....	20
5.13 Vandal prone areas.....	20
6 Verification of the safety requirements and/or protective measures.....	20
7 Information for use	22
Annex A (informative) Firefighting concept for buildings	24
A.1 General.....	24
A.2 Introduction	24
A.3 Background	24
A.4 Fire service operations	25
A.5 Firefighters lift	25
A.6 Fire service rescue	25
Annex B (informative) Basic layouts for firefighters lift.....	28
Annex C (informative) Power supplies for firefighters lifts — Secondary power supplies	31
Annex D (normative) Water protection in the lift well.....	33
Annex E (informative) Water management.....	34
E.1 General.....	34
E.2 Measures to address the ingress of water into the lift well	34
E.3 Measures to address the accumulation of water in the lift pit	34
Annex F (informative) Concepts of fire compartments	35
Annex G (normative) Pictogram for a firefighters lift.....	36
Annex H (informative) Examples of rescue concept for firefighters	37

Annex I (informative) Building interface.....	40
I.1 General	40
I.2 Approval of fire authorities	40
I.3 Provision of firefighters lifts.....	41
I.4 Protection of the area in front of landing doors.....	41
I.5 Separation of the lift well.....	41
I.6 Fire resistance of shutters and fire door.....	42
I.7 Smoke control	42
I.8 Lift identification	42
Annex J (informative) Maintenance requirements.....	43
Annex ZA (informative) Relationship between this European Standard and the essential requirements of Directive 2014/33/EU aimed to be covered	44
Bibliography	46

European foreword

This document (EN 81-72:2020) 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 January 2021, and conflicting national standards shall be withdrawn at the latest by July 2022.

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 81-72:2015.

This document is a revision of EN 81-72:2015 in order to align its Annex ZA to the new format and requirements as laid out in the EU Commission Standardization Request “M/549 C (2016) 5884 final”. During this revision no technical changes are made and the technical requirements of this document remain identical to EN 81-72:2015, with the exception of the normative references in the text which have been updated to the latest versions of the documents.

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).

For relationship with EU Directive 95/16/EC amended by 2006/42/EC and 2014/33/EU, see informative Annex ZA, which is an integral part of this document.

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

Introduction

This document is a type C standard as stated in EN ISO 12100:2010.

Firefighters lifts are used to bring the firefighters and their equipment to the required floors.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered is 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.

The following assumptions were made in writing this document.

Negotiations have been made between the owner, customer, building designers, fire authorities or other relevant bodies and installer concerning:

- a) the intended use of the lift;
- b) environmental conditions;
- c) civil engineering problems;
- d) interfaces between the lift and the building management system (BMS) or fire detection system;
- e) the firefighting strategy;
- f) smoke management, e.g. pressurizing system impact to the lift system such as sway of travelling cables and operation of landing doors;
- g) water management, and where applicable, the highest permissible water level in the pit, e.g. 0,5 m;
- h) other aspects related to the place of the installation and the rescue of persons from within the car;
- i) power supply including regenerative power during secondary power supply operation;
- j) size of safe area(s);
- k) the need for an additional firefighters car key switch and availability of the key.

Developers and architects will need to take account of national building regulations in providing a suitable fire resistant structure of the building, safe areas, fire detection and extinguisher systems. Examples are shown in Annex B and Annex F.

1 Scope

1.1 This document specifies the additional or deviating requirements to EN 81-20:2020 for new passenger and goods passenger lifts, which can be used for firefighting and evacuation purposes under firefighters control.

1.2 This document applies, when the following conditions are fulfilled:

- the lift well and the lift environment are designed to restrict the ingress of fire, heat and smoke to the lift well, machinery spaces and safe areas;
- the building design limits the flow of water into the lift well;
- the firefighters lift is not used as an escape route;
- the lift well and the lift environment are fire protected for at least to the same level as the building structure;
- the power supply is secure and reliable;
- the electrical cable(s) providing power to the lift is fire protected to the same fire protection level as given to the lift well structure;
- a suitable maintenance and verification plan is implemented.

1.3 This document does not cover:

- the use of lifts with partially enclosed wells for use as firefighters lifts;
- lifts installed in new or existing buildings, which are not included in fire resisting building structure;
- important modification to existing lifts.

1.4 This document does not define:

- the number of firefighters lifts and the floors to be served during firefighting operations;
- size of safe area(s);
- the use of other than the highest deck of a multi deck lift for firefighting operations.

1.5 This document deals with the significant hazards, hazardous situations and events relevant to firefighters lifts (as listed in Clause 4) when they are used as intended and under the conditions as foreseen by the installer.

1.6 The following significant hazards are not dealt with in this document and are assumed to be addressed by the building designer:

- not having enough or correctly located firefighters lifts to move the firefighters up the building;
- a fire in the firefighters lift well, safe area, machinery space or car;
- the absence of building floor identification signs at any floor;
- water management is not operating correctly.

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 81-20:2020, *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 81-70:2018, *Safety rules for the construction and installation of lifts - Particular applications for passenger and goods passenger lift - Part 70: Accessibility to lifts for persons including persons with disability*

EN 81-71:2018+AC:2019, *Safety rules for the construction and installation of lifts - Particular applications to passenger lifts and goods passenger lifts - Part 71: Vandal resistant lifts*

EN 81-73:2020, *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 131-1:2015+A1:2019, *Ladders - Part 1: Terms, types, functional sizes*

EN 60529:1991¹⁾, *Degrees of protection provided by enclosures (IP code) (IEC 60529:1989)*

EN ISO 12100:2010, *Safety of machinery - General principles for design - Risk assessment and risk reduction (ISO 12100:2010)*

ISO 8100-30:2019, *Lifts for the transport of persons and goods - Part 30: Class I, II, III and VI lifts installation*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN ISO 12100:2010 and EN 81-20:2020 and the following apply.

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

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <https://www.iso.org/obp/ui>

3.1

control system

system of the lift which responds to input signals and generates output signals causing the equipment under control to operate in the desired manner

3.2

evacuation

organized and controlled movement of persons in a building from a dangerous place to a safe place

3.3

fire

combustion of material producing flame, heat and smoke

1) This document is impacted by the amendments EN 60529:1991/A1:2000 and EN 60529:1991/A2:2013.