

<b>STN</b>	<b>Bezpečnostné pravidlá na konštrukciu a montáž výťahov. Osobitné úpravy výťahov určených na dopravu osôb alebo osôb a nákladov. Časť 72: Požiarne výťahy.</b>	<b>STN EN 81-72</b>  27 4003
------------	---	--

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

Táto norma obsahuje anglickú verziu európskej normy.  
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 09/15

Obsahuje: EN 81-72:2015

Oznámením tejto normy sa ruší  
STN EN 81-72 (27 4003) z júna 2004

**121598**

---

Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, 2015  
Podľa zákona č. 264/1999 Z. z. v znení neskorších predpisov sa môžu slovenské technické normy rozmnožovať a rozširovať iba so súhlasom Úradu pre normalizáciu, metrológiu a skúšobníctvo SR.

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 14 February 2015.

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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, 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: Avenue Marnix 17, B-1000 Brussels**

## Contents

	Page
Foreword.....	4
Introduction .....	6
<b>1 Scope .....</b>	<b>7</b>
<b>2 Normative references .....</b>	<b>8</b>
<b>3 Terms and definitions .....</b>	<b>8</b>
<b>4 List of significant hazards .....</b>	<b>9</b>
<b>5 Safety requirements and/or protective measures .....</b>	<b>10</b>
<b>5.1 Environment/Building requirements.....</b>	<b>10</b>
<b>5.2 Fundamental firefighters lift requirements .....</b>	<b>12</b>
<b>5.3 Protection of electrical equipment against water (see Annex D) .....</b>	<b>13</b>
<b>5.4 Rescue of trapped firefighters in the car .....</b>	<b>13</b>
<b>5.4.1 Emergency trap door.....</b>	<b>13</b>
<b>5.4.2 Ladders .....</b>	<b>14</b>
<b>5.4.3 Rescue from outside the car .....</b>	<b>14</b>
<b>5.4.4 Self-rescue from inside the car .....</b>	<b>14</b>
<b>5.5 Hydraulic lifts used as firefighters lift .....</b>	<b>15</b>
<b>5.6 Car doors and landing doors.....</b>	<b>15</b>
<b>5.7 Lift machine and associated equipment .....</b>	<b>15</b>
<b>5.8 Control Systems .....</b>	<b>15</b>
<b>5.9 Power supplies for firefighters lifts .....</b>	<b>19</b>
<b>5.10 Changeover and interruption of electrical supplies.....</b>	<b>19</b>
<b>5.11 Car and landing controls .....</b>	<b>19</b>
<b>5.12 Fire service communication system.....</b>	<b>20</b>
<b>5.13 Vandal prone areas.....</b>	<b>20</b>
<b>6 Verification of the safety requirements and/or protective measures .....</b>	<b>20</b>
<b>7 Information for use .....</b>	<b>22</b>
<b>Annex A (informative) Fire fighting concept for buildings.....</b>	<b>24</b>
<b>A.1 General.....</b>	<b>24</b>
<b>A.2 Introduction .....</b>	<b>24</b>
<b>A.3 Background .....</b>	<b>24</b>
<b>A.4 Fire service operations .....</b>	<b>25</b>
<b>A.5 Firefighters lift.....</b>	<b>25</b>
<b>A.6 Fire service rescue .....</b>	<b>25</b>
<b>Annex B (informative) Basic layouts for firefighters lift.....</b>	<b>29</b>
<b>Annex C (informative) Power supplies for firefighters lifts — Secondary Power supplies.....</b>	<b>32</b>
<b>Annex D (normative) Water protection in the lift well .....</b>	<b>34</b>
<b>Annex E (informative) Water management .....</b>	<b>35</b>
<b>E.1 General.....</b>	<b>35</b>
<b>E.2 Measures to address the ingress of water into the lift well .....</b>	<b>35</b>
<b>E.3 Measures to address the accumulation of water in the lift pit.....</b>	<b>35</b>
<b>Annex F (informative) Concepts of fire compartments .....</b>	<b>36</b>
<b>Annex G (normative) Pictogram for a firefighters lift .....</b>	<b>37</b>

<b>Annex H (informative) Examples of rescue concept for firefighters .....</b>	<b>38</b>
<b>Annex I (informative) Building interface .....</b>	<b>41</b>
<b>I.1 General .....</b>	<b>41</b>
<b>I.2 Approval of fire Authorities .....</b>	<b>41</b>
<b>I.3 Provision of firefighters lifts .....</b>	<b>42</b>
<b>I.4 Protection of the area in front of landing doors .....</b>	<b>42</b>
<b>I.5 Separation of the lift well .....</b>	<b>42</b>
<b>I.6 Fire resistance of shutters and fire door .....</b>	<b>43</b>
<b>I.7 Smoke control.....</b>	<b>43</b>
<b>I.8 Lift identification.....</b>	<b>43</b>
<b>Annex J (informative) Maintenance requirements.....</b>	<b>44</b>
<b>Annex ZA (informative) Relationship between this European Standard and the Essential Requirements of EU Directives.....</b>	<b>45</b>
<b>Annex ZB (informative) Relationship between this European Standard and the Essential Requirements of EU Directives.....</b>	<b>46</b>
<b>Bibliography.....</b>	<b>47</b>

## Foreword

This document (EN 81-72:2015) 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 October 2015 and conflicting national standards shall be withdrawn at the latest by August 2017.

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

This document supersedes EN 81-72:2003.

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 Directives 95/16/EC amended by 2006/42/EC and 2014/33/EU, see informative Annexes ZA and ZB, which are integral parts of this document.

EN 81-72:2015 is a full revision of the standard which reflects developments since the publication of EN 81-72:2003 and experience gained from its application. Consequently, most clauses have some changes. The main changes can be identified thus:

- "Safe area" is used in place of "lobby" to be consistent with CEN/TS 81-76. The two terms are interchangeable.
- Revision of the elements dealing with building design and the inclusion of a new informative annex on the building interface. Items to be considered in the use of pressurization of lift wells have been added including the noise level at the fire communication points.
- Deletion of the requirement for a firefighters lift to serve every floor of the building. The floors to be served are assumed to be determined as part of the design of the building for fire.
- New requirements for protection of electrical equipment against water; in the lift well and the roof and walls of the lift car.
- New measures to prevent water ingress into the lift well which are strongly preferred over measures to control the level of water in the lift pit alone. The measures considered are described in a new annex on water management.
- Revision of clauses dealing with the rescue of trapped firefighters with rationalized requirements for movable ladders and reduced maximum distance between consecutive landings. The use of fixed ladders and rope ladders has been removed.
- New requirements for the interface between firefighters lift switches and the control system.
- New requirements for dual entry lift cars where not all the safe areas to be used in firefighting operations are on the same side i.e. more than one car door could be used during firefighting operations.
- Revision of requirements for the control system including new requirements for when a firefighters key switch is used in the lift car (subject to negotiation). Revised requirements, in phase 2, for car doors to close under constant pressure from door close or car call buttons and for opening.
- Inclusion of a new informative annex on maintenance requirements.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Introduction

This standard 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 standard.

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 standard.

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 European Standard specifies the additional or deviating requirements to EN 81-20 for new passenger and goods passenger lifts, which may be used for firefighting and evacuation purposes under firefighters control.

**1.2** This European Standard 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 European Standard 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 European Standard 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 European Standard 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 standard 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, 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 81-20:2014, *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 81-70, *Safety rules for the construction and installations of lifts — Particular applications for passenger and goods passenger lifts — Part 70: Accessibility to lifts for persons including persons with disability*

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

EN 131-1, *Ladders — Part 1: Terms, types, functional sizes*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

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

ISO 4190-1, *Lift (Elevator) installation — Part 1: Class I, II, III and VI lifts*

**koniec náhľadu – text ďalej pokračuje v platenej verzii STN**