



# SLOVENSKI STANDARD

## SIST EN 81-28:2022

01-september-2022

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**Varnostna pravila za konstruiranje in vgradnjo dvigal (liftov) - Dvigala za prevoz oseb in blaga - 28. del: Alarmi v osebnih in osebno-tovornih dvigalih**

Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 28: Remote alarm on passenger and goods passenger lifts

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Aufzüge für den Personen- und Gütertransport - Teil 28: Fern-Notruf für Personen- und Lastenaufzüge

Règles de sécurité pour la construction et l'installation des ascenseurs - Élévateur pour le transport de personnes et d'objets - Partie 28 : Téléalarme pour ascenseurs et ascenseurs de charge

**Ta slovenski standard je istoveten z: EN 81-28:2022**

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English Version

## Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 28: Remote alarm on passenger and goods passenger lifts

Règles de sécurité pour la construction et l'installation  
des ascenseurs - Ascenseur pour le transport de  
personnes et d'objets - Partie 28 : Téléalarme pour  
ascenseurs et ascenseurs de charge

Sicherheitsregeln für die Konstruktion und den Einbau  
von Aufzügen - Aufzüge für den Personen- und  
Gütertransport - Teil 28: Fern-Notruf für Personen-  
und Lastenaufzüge

This European Standard was approved by CEN on 20 April 2022.

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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

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## iTeh STANDARD PREVIEW (standards.iteh.ai)

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**EN 81-28:2022 (E)****European foreword**

This document (EN 81-28:2022) 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 December 2022, and conflicting national standards shall be withdrawn at the latest by June 2024.

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 81-28:2018+AC:2019.

In comparison with EN 81-28:2018+AC:2019, the following significant changes have been made:

- normative references have been updated;
- Annex ZA has been modified.

No technical changes have been made in Clause 4 during this revision.

This document is intended to be used in conjunction with the EN 81-20:2020, which gives the basic requirements for passenger and goods passenger lifts.

This document is part of the EN 81 series of standards. The structure of the EN 81 series is described in CEN/TR 81-10:2008.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s) / Regulation(s).

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

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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.

This document is of relevance, in particular, for the following stakeholder groups representing the market players with regard to machinery safety:

- machine manufacturers (small, medium and large enterprises);
- health and safety bodies (regulators, accident prevention organizations, market surveillance etc.).

Others can be affected by the level of machinery safety achieved with the means of the document by the above-mentioned stakeholder groups:

- machine users/employers (small, medium and large enterprises);
- machine users/employees (e.g. trade unions, organizations for people with special needs);
- service providers, e.g. for maintenance (small, medium and large enterprises);
- consumers (in case of machinery intended for use by consumers).

The above-mentioned stakeholder groups have been given the possibility to participate in the drafting process of this document.

The machinery concerned and the extent to which hazards, hazardous situations or hazardous events are covered are indicated in the Scope of this document.

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

**EN 81-28:2022 (E)****1 Scope**

This document specifies the technical requirements for the alarm systems for passenger and goods passenger lifts, as described in the EN 81 series.

This includes:

- activation of the alarm,
- transmission of the alarm,
- information for use and maintenance,
- site testing to verify the requirements of this document have been met before the lift is used.

Excluded are:

- the failure of the communication network (see Annex A), including mobile network signal strength or similar;
- the failure of the network power supply such that all the lifts in a geographical area create entrapment simultaneously.

This document deals with the following significant hazards, hazardous situations or hazardous events relevant to lift, when it is used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer:

- risk of entrapment of users in the car and in the well.

This document is not applicable to alarm systems for lifts installed before the date of its publication.

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

ISO 4190-5:2006, *Lift (Elevator) installation — Part 5: Control devices, signals and additional fittings*



### 3 Terms and definitions

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

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

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

#### 3.1

##### **alarm**

status between a person who is entrapped pushing the initiation device until the time all rescue actions are completed

#### 3.2

##### **acknowledgement**

confirmation (answer) by the rescue service to the alarm equipment that the alarm has been received

#### 3.3

##### **alarm equipment**

part of the alarm system able to detect, identify, validate as true alarm and initiate 2-way communication

Note 1 to entry: The alarm equipment is part of the lift.

#### 3.4

##### **end of alarm**

information issued by the alarm system and destined for the rescue service in order to inform it that the entrapment situation is ended

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#### 3.5

##### **alarm initiation device**

device intended for users trapped in the lift installation in order to call for external assistance, exemplified in Annex A

#### 3.6

##### **alarm system**

combination of alarm initiation device(s) and alarm equipment exemplified in Annex A

#### 3.7

##### **human response**

response performed directly by a person of the rescue service via the alarm system

#### 3.8

##### **reception equipment**

equipment outside of the lift (e.g. at the rescue service) capable of handling alarm identification and 2-way communication exemplified in Annex A

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**3.9**  
**rescue service**  
organization in charge of receiving alarm identification and rescuing users trapped in the lift installation, exemplified in Annex A

Note 1 to entry: A rescue service can be part of the maintenance organization.

Note 2 to entry: See Annex B.

**3.10**  
**transmitter**  
part of a 2-way communication system which sends voice and data to the reception equipment exemplified in Annex A

## **4 Safety requirements and/or protective/risk reduction measures**

### **4.1 General**

#### **4.1.1 Introduction**

Alarm systems shall comply with the safety requirements and/or protective measures of Clause 4.

In addition, alarm systems shall be designed according to the principles of EN ISO 12100:2010 for relevant but not significant hazards which are not dealt with by this document.

#### **4.1.2 Alarm information**

The alarm equipment shall ensure that subject to 4.1.6 alarm filtering, the full alarm identification (see 4.1.7) will be emitted until acknowledgement, even during maintenance.

If an emission fails before acknowledgement, the delay between re-emission(s) shall be reduced to the minimum compatible with the communication network.

If the communication is interrupted any re-emission after acknowledgement shall not be impeded by the alarm equipment. The alarm system shall be able to accept communication from the rescue service until the end of the alarm has occurred.

Emission of the alarm identification to the transmitter shall not be delayed, except during alarm filtering.

Between the acknowledgement and the end of alarm, any alarm filtering shall be bypassed.

After acknowledgement, if the communication is interrupted, the alarm equipment shall stop automatic re-emission.

#### **4.1.3 End of alarm**

Means shall be provided to enable indication, from the alarm system to the rescue service, that the alarm has been dealt with and no user is trapped in the lift.

The end of alarm shall be initiated at lift installation from which the alarm call was made. The means to initiate the end of alarm shall be accessible only by use of a key.

Resetting of the alarm by a signal coming from the rescue service shall be possible.

#### 4.1.4 Emergency electrical power supply

Any alarm shall not be impeded or lost even in cases of electrical power supply switching or power supply failure.

Where an emergency electrical power supply is used, means shall be provided to automatically inform the rescue service and to indicate at the installation of the failure of the emergency electrical power supply. This is considered to occur whenever the emergency electrical power supply is incapable of holding sufficient capacity to provide one hour of function of the alarm system including 15 minutes voice communication.

If the transmitter is integrated in the alarm system (e.g. GSM-module), the requirements of the standard regarding the emergency electrical power supply apply to the transmitter.

#### 4.1.5 Visible and audible signals in the lift car

The alarm system shall be equipped with visible and audible signals, integrated in or above the car operating panel, consisting of:

- a) a yellow graphical symbol in accordance with ISO 4190-5:2006, Table C.1, No 1, illuminated when an alarm has been validated as a true alarm, i.e. after the end of filtering, until the end of alarm;
- b) an audible signal with a sound pressure level at 1m from the source between 35 dB(A) and 65 dB(A) adjustable to suit the site conditions when an alarm has been validated as a true alarm, i.e. after the end of filtering, until the voice communication is established. The acoustic signal is not required to be continuous;
- c) a green graphical symbol in accordance with ISO 4190-5:2006, Table C.1, No 8, illuminated during voice communication.

See Figure 1 which clarifies the operation of the visible and audible signals.

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