



# SLOVENSKI STANDARD

## oSIST prEN 81-83:2023

01-julij-2023

Nadomešča:

SIST-TS CEN/TS 81-83:2010

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**Varnostna pravila za konstruiranje in vgradnjo dvigal (liftov) - Obstoječa dvigala - 83. del: Pravila za izboljšanje odpornosti proti vandalizmu**

Safety rules for the construction and installation of lifts - Existing lifts - Part 83: Rules for the improvement of the resistance against vandalism

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Bestehende Aufzüge - Teil 83: Regeln für die Verbesserung der Schutzmaßnahmen gegen mutwillige Zerstörung

Règles de sécurité pour la construction et l'installation des ascenseurs existants - Partie 83 : Règles pour l'amélioration de la résistance aux actes de vandalisme

**Ta slovenski standard je istoveten z: prEN 81-83**

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**ICS:**

91.140.90      Dvigala. Tekoče stopnice      Lifts. Escalators

**oSIST prEN 81-83:2023**

**en**



EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**DRAFT**  
**prEN 81-83**

June 2023

ICS 91.140.90

Will supersede CEN/TS 81-83:2009

English Version

## Safety rules for the construction and installation of lifts - Existing lifts - Part 83: Rules for the improvement of the resistance against vandalism

Règles de sécurité pour la construction et l'installation  
des ascenseurs - Ascenseurs existants - Partie 83:  
Règles pour l'amélioration de la résistance aux actes  
de vandalisme

Sicherheitsregeln für die Konstruktion und den Einbau  
von Aufzügen - Bestehende Aufzüge - Teil 83: Regeln  
für die Verbesserung der Schutzmaßnahmen gegen  
mutwillige Zerstörung

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.

**Warning** : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

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**prEN 81-83:2023 (E)**

## **European foreword**

This document (prEN 81-83:2023) 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 CEN enquiry.

This document will supersede CEN/TS 81-83:2009.

The main changes compared to the previous edition are listed below:

- a) transformation from a Technical Specification to a European Standard;
- b) the methodology for the identification of hazards and the selection of risk reduction measures by priority levels (previous Annex A) have been moved to Clause 5;
- c) all technical requirements for protective measures have been incorporated in the checklist in the normative Annex A which combines now the previous chapter 5 and the previous checklist in Annex A; this combination prevents duplication of technical requirements in the document and allows simplification of its use;
- d) all references to protective measures have been updated to EN 81-71:2022.

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.

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## Introduction

### 0.1 General

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 the 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.

### 0.2 General Remarks

This document was developed to establish a methodology to specify at national level procedures for improving the resistance against vandalism of existing lifts. Existing lifts were installed to the state of the art appropriate at that time. This level is less than today's state of the art, and in many applications, vandalism has not been considered or only a few features addressing vandalism have been installed.

In order to support this aim, this document is intended to help owners, authorities and lift designers/manufacturers to find practical solutions and ways of applying EN 81-71:2022 to existing lifts to improve the resistance against vandalism. Where, due to practical reasons, these standards cannot be fully applied, this document provides alternative proposals.

**prEN 81-83:2023 (E)****1 Scope**

This document provides rules on how to apply EN 81-71:2022 to existing lifts to improve their vandal resistance. It is detailing the general requirement for vandal resistance as referred to in EN 81-80:2019, Annex A, Table A.1, No. 1.2.

NOTE EN 81-71:2018 referenced in EN 81-80:2019 has been replaced by EN 81-71:2022 without technical changes. The reference to category 0 has been removed.

This document applies to permanently installed lifts serving defined landing levels, having a car designed for the transportation of persons or persons and goods.

**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 81-71:2022, *Safety rules for the construction and installation of lifts - Particular applications to passenger lifts and goods passenger lifts - Part 71: Vandal resistant lifts*

EN ISO 13857:2019, *Safety of machinery - Safety distances to prevent hazard zones being reached by upper and lower limbs (ISO 13857:2019)*

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

**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 EN 81-71:2022 apply.

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

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

**4 List of significant hazards**

EN 81-71:2022, Clause 4 applies.

**5 Methodology for improving vandal resistance****5.1 General**

All technical solutions for improvement of vandal resistance of existing lifts shall be aligned as much as possible to the state-of-the-art solutions applicable for new lifts. The requirements and/or protective measures documented in today's state-of-the-art standards for new lifts shall not be considered as the only possible solution. Alternatives are permitted, provided they lead to an equivalent level of resistance.

Although immediate upgrading of all existing lifts would be preferable from the vandal resistance point of view, this can be not possible in a short period of time due to technical and economic reasons.

This document does not provide legally binding requirements for measures to be carried out or for the period of time for such measures. Such obligations for existing lifts are subject to national legislation. The procedures described in this clause are intended to assist in setting up national regulations and/or providing a systematic approach to the lift owners for improving the vandal resistance of existing lifts by showing:

- how to identify hazards;
- how to evaluate the existing hazardous situations; and
- how to classify priority levels which apply to the relevant hazards and risk reduction measures.

Before upgrading a lift by one or several of the appropriate measures, the consequences to other parts of the lift shall be considered. This may lead to further modifications to align the interfaces and to prevent lowering the safety or vandal resistance in other areas of the lift.

After the upgrading of a lift by one or several of the appropriate measures the remaining hazardous situations should be documented and recorded for future upgrades and general awareness to manage any residual risks.

In a periodic scheme or whenever the use of the lift has changed, a new audit should be carried out in order to check whether the previous assessment needs to be updated.

## 5.2 Categorization of the lift

Clarification of the existing environment and the likelihood of persons acting as a vandal, enable the owner of the lift to define the category according to EN 81-71:2022, Annex A. This annex also gives guidance on how vandalism in general can be reduced by external influences due to observation, the way in accessing the lift, appearance, performance of the lift, etc. These elements may be taken into consideration before or in addition to a modification of the lift.

## 5.3 Identification of hazardous situations

Annex A contains a checklist which shall be used for identification of hazardous situations due to vandalism relevant for an individual lift and for determination of appropriate measures. The checklist can be used in the course of any periodical survey or special examination on a given installation, but only technically competent and sufficiently trained persons should be allowed to carry out these examinations. This can be subject to national regulations.

## 5.4 Selection of risk reduction measures by priority levels

Table 1 shows a minimum level of improvements to be fulfilled according to EN 81-80:2019 in order to achieve a basic protection against hazardous damages due to careless and rough use, which every lift can be subjected. For lifts where deliberate acts of vandalism are expected according to Category 1 or Category 2 the checklist in Annex A indicates the priorities of protective measures for improving the vandal resistance. It is recommended to select the measures with priority level high first in order to achieve an essential improvement of vandal resistance. Priority levels medium or low may be selected at a later stage, e.g. in combination with a modernisation of the lift and/or replacement of components.



Table 1 — Items of EN 81-80:2019 affecting this document

No. EN 81-80:2019	Hazard/Hazardous situation	No. in this document
2.1	Inadequate locking devices on access doors to well and pit	1.6
2.3	Well enclosures with perforate walls	1.1
2.5	Partially enclosed well with too low enclosure	1.4 / 1.5
2.17	Excessive horizontal distance between the inner surface of the well and the sill, door frame of the car or closing edge of car sliding doors	3.17
2.19	Excessive distance between leading edges of car and landing door	3.8
4.1	Perforate landing doors	3.1
4.2	Perforate car doors	3.1
4.3	Inadequate strength of landing doors	3.5
4.4	Inadequate strength of car doors	3.5
4.5 - 4.8	Inadequate glass in doors	3.7
4.15	Unlocking of landing door without a special tool	3.12 / 3.13
4.21	Missing car door restrictor	3.16
5.3	Unsafe locking of car roof trap door	4.14
5.10	No or inadequate load control on car	-
11.1	Missing notices, markings and operating instructions	7.1

Existing lifts might already fully or nearly comply with many requirements of this document even if earlier local regulations did not contain relevant requirements. In such cases, the priority levels may be lowered or even the requirement being considered as fulfilled.

The priority levels in the checklist are defined in accordance with safety considerations only. However, implementation of measures to improve the vandal resistance is also a question of economic considerations and technical feasibility. Therefore, preference should be given to measures which are reasonable and practical and/or which are of high priority.

## 6 Verification of improvement measures

Before putting a lift back into service after modifications, the measures shall be verified in accordance with EN 81-20:2020, Clause 6 and EN 81-71:2022, Clause 6.

## 7 Information for use

Relevant documentation shall be provided for those components which are changed and completed according to Annex A of this document.

## **Annex A** (normative)

### **Check list for improving the vandal resistance of existing lifts**

The vandal resistance check list in this annex (Table A.1) shall be used as a tool to identify the deficiencies related to vandal resistance and to determine which type of protective measure(s) according to today's state-of-the-art are applicable.

Alternative protective measures may be chosen, provided they lead to an equivalent level of vandal resistance.

A risk assessment shall be made on a case by case basis for additional deficiencies not covered in this document.

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Table A.1 — Vandal resistance check list for existing lifts

No.	Items to be checked for compliance with EN 81-71:2022	Category	Requirement fulfilled	Priority level	Protective measures (risk reduction measures)	Possible measures to be adopted	Related risk according to EN 81-80:2019
<b>1</b>	<b>Lift well</b>						
<b>1.1</b>	Imperforate well enclosure	1 2	<input type="checkbox"/> Yes <input type="checkbox"/> No	Mid High	1. Enclose the well with imperforate enclosure, or 2. for category 1, fit perforate well enclosure according to EN ISO 13857:2019, 4.2.4.2	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No	2.3, 2.4
<b>1.2</b>	Strength of enclosure	1 2	<input type="checkbox"/> Yes <input type="checkbox"/> No	Mid High	Replace by well material with strength in accordance with EN 81-71:2022, 5.2.1.1	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>1.3</b>	Non-combustible material of well enclosures	1 2	<input type="checkbox"/> Yes <input type="checkbox"/> No	Mid High	Replace by non-combustible material in accordance with EN 81-71:2022, 5.2.1.1	<input type="checkbox"/> Yes <input type="checkbox"/> No	
<b>1.4</b>	Height of well enclosure minimum 5,0 m	1	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	High	Fit well enclosure in accordance with EN 81-20:2020, 5.2.5.2.3 b) with a minimum height of 5,0 m	<input type="checkbox"/> Yes <input type="checkbox"/> No	2.5
<b>1.5</b>	Totally enclosed well enclosure	2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	High	Fit totally enclosed well in accordance with EN 81-20:2020, 5.2.5.2.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No	2.5
<b>1.6</b>	Safe locking of inspection and emergency doors, inspection traps	1 2	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not applicable	Mid High	Fit doors and inspection traps that it is not possible to open them in accordance with EN 81-71:2022, 5.2.2.1	<input type="checkbox"/> Yes <input type="checkbox"/> No	2.1, 2.2