

# SVENSK STANDARD

## SS-EN 81-73:2016



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### **Säkerhetsregler för konstruktion och installation av hissar – Speciella säkerhetsregler för person – och varupersonhissar – Del 73: Hissars funktion i händelse av brand**

### **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**



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Denna standard ersätter SS-EN 81-73:2005, utgåva 1.

The European Standard EN 81-73:2016 has the status of a Swedish Standard. This document contains the official English version of EN 81-73:2016.

This standard supersedes the Swedish Standard SS-EN 81-73:2005, edition 1.

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EUROPEAN STANDARD

**EN 81-73**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 13.220.50; 91.140.90

Supersedes EN 81-73:2005

English Version

## 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

Règles de sécurité pour la construction et l'installation  
des ascenseurs - Applications particulières pour les  
ascenseurs et les ascenseurs de charge - Partie 73:  
Fonctionnement des ascenseurs en cas d'incendie

Sicherheitsregeln für die Konstruktion und den Einbau  
von Aufzügen - Besondere Anwendungen für  
Personen- und Lastenaufzüge - Teil 73: Verhalten von  
Aufzügen im Brandfall

This European Standard was approved by CEN on 5 December 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.

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

**CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels**

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## European foreword

This document (EN 81-73:2016) 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 August 2016, and conflicting national standards shall be withdrawn at the latest by August 2018.

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 81-73:2005.

EN 81-73:2016 is a full revision which reflects developments since the publication of EN 81-73:2005 and experience gained from its application. Consequently, most clauses have some change. The main changes can be identified as follows:

- use of “recall means” to denote either a manual recall device or automatic recall device e.g. fire alarm system;
- changes to the assumptions on which this European Standard is based including items subject to negotiations;
- revision of clauses dealing with recall means, interface requirements and designated landings. Addition of a sign to manual recall devices;
- clarification that fire recall signals are not to override maintenance controls;
- change in the reference of the prohibition sign;
- changes to the behaviour of the lift on receipt of a recall signal including requirements for a sounder on the car if the lift is under maintenance control and a sounder in the car when doors are closing with provision to make passenger protection devices inactive if doors have not closed after a delay;
- changes to the behaviour of the lift once arrived at the designated landing including requirements for audible and/or visual indication and options for the lift to park with doors open or closed;
- deletion of requirements for a separate reset signal and for a “no entry” indicator;
- inclusion of a new informative Annex B on maintenance requirements.

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 EU Directive 2014/33/EU, see informative Annex ZA and Annex ZB, which are integral parts 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, 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 document is a type C standard as stated in EN ISO 12100:2010.

The lifts concerned and 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.

The function described in this European Standard relates to the automatic return of the car(s) to a designated landing and the removal of the lift(s) from service.

This European Standard deals with

- a) reducing the risk of passengers being trapped in a car in the event of a fire in a building,
- b) helping the firefighters/rescue teams to check that the lift contains no trapped passengers since it will be finally parked at a designated landing,
- c) reducing the risk of passengers in the car being exposed to fire and smoke.

The contents of this European Standard are based on the following assumptions:

- recall means initiates the signal to the lift causing a specific reaction of the lift;
- building designers, architects or planners give careful consideration to specifying fire recall to lifts as this European Standard;
- there is a clear separation between the functioning of the recall means and the lift control system; and
- recall means is operating as intended.

This European Standard assumes that negotiation has taken place between the building designer and the lift installer on the following:

- type of recall means and its interface (see EN 81-20:2014, 0.4.2);
- type and protection of switch in case of manual recall device;
- number and location of designated landing(s);
- suitable maintenance and verification plan is implemented; and
- whether the lift parks with doors open or closed at the designated landing.

## 1 Scope

This European Standard specifies the special provisions and safety rules describing the behaviour of lifts in the event of fire in a building, on the basis of a recall signal(s) to the lift(s) control system.

This European Standard applies to new passenger lifts and goods passenger lifts with all types of drives. However, it may be used as a basis to improve the safety of existing passenger and goods passenger lifts.

This European Standard does not apply to

- lifts that remain in use in the event of fire e.g. firefighters lifts as defined in EN 81-72,
- lifts used for the evacuation of a building.

## 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 81-72, *Safety rules for the construction and installation of lifts — Particular applications for passenger and goods passenger lifts — Part 72: Firefighters lifts*

EN 81-77, *Safety rules for the construction and installations of lifts — Particular applications for passenger and goods passenger lifts — Part 77: Lifts subject to seismic conditions*

EN ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs (ISO 7010)*

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 81-20:2014 and the following apply.

### 3.1

#### **building responsible person**

person legally responsible for the building

### 3.2

#### **building management system**

##### **BMS**

system capable of making decisions based on information sent to it

### 3.3

#### **designated landing**

floor determined by the building evacuation strategy that allows persons leaving the lift to safely exit the building or area of the building during a fire

**3.4**

**manual recall device**

manually operated device e.g. break glass toggle switch, button or key switch, which, upon operation, activates a signal, causing the lift under control to operate in the desired manner

**4 List of significant hazards**

This clause contains all the significant hazards, hazardous situations and events, as far as they are dealt with in this European Standard, identified by risk assessment as significant for lifts and which require action to eliminate or reduce the risk. See Table 1.

**Table 1 — Significant hazards dealt with in this European Standard**

No	Hazards as listed in EN ISO 12100:2010, Annex B	Requirements and clauses in this European Standard
1	Mechanical hazards	5.1.4, 5.1.5, 5.3.4, 5.3.5, 5.3.6, 5.3.7
1	Trapping hazard	5.1, 5.2, 5.3
1	Impact hazard	5.3.2
3	Thermal hazard (Contamination by heat or smoke)	5.1, 5.2, 5.3
8	Inadequate design or location of displaying units	5.1.4, 5.1.6, 5.3.5, 5.3.6

**5 Safety requirements and/or protective measures**

**5.1 Basic requirements**

**5.1.1 General provision**

The lift provided with recall means shall be taken out of normal service in the event of fire, by recalling it to one of the designated landings.

See Figure A.1 for clarification.

**5.1.2 Designated landing(s) and input signal(s)**

The lift shall serve one or more designated landings. For each designated landing, there shall be a corresponding input signal to the lift control system. The signal(s) shall be provided by a recall means. On receipt of the first activated signal, the lift shall return to the corresponding designated landing in accordance with 5.3. Other signals from recall means shall be ignored until the first signal is reset.

See A.2 for clarification of interface responsibilities.

**5.1.3 Recall means**

A recall means, which creates signal(s) for the recall of the lift, shall be done by at least one of the following:

- a) manual recall device e.g. key switch, firefighters lift switch (EN 81-72) of a firefighters lift; or
- b) automatic means e.g. BMS, fire detection system.