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
National foreword

This British Standard is the UK implementation of EN 81-73:2016. It supersedes BS EN 81-73:2005 which will be withdrawn on 31 August 2018.

This standard forms part of a series of standards concerning the safe design of passenger and goods passenger lifts. As such, it is intended to be read in conjunction with the other standards in the series, in particular BS EN 81-20, the base standard for the design of new lifts.

BS EN 81-20:2014 was published in August 2014 and supersedes BS EN 81-1:1998+A3:2009 and BS EN 81-2:1998+A3:2009, which will be withdrawn on 31 August 2017. The latter two standards continue to be available for use in parallel to BS EN 81-20:2014 until that date. The three year transition period was the longest possible and allows for new building and lift designs to be adapted to the new standard.

To support this coexistence, it has been decided to extend the date of withdrawal of BS EN 81-73:2005 to 31 August 2018.

During the transition period there are three possible applications of BS EN 81-73 to the design of a new lift:


2. BS EN 81-73:2016 can be used in conjunction with BS EN 81-20:2014.


The Introduction to EN 81-73:2016 assumes that negotiation has taken place between the building designer and the lift installer on various points. The usual practice in the UK has implications for one of these: whether the lift parks with doors open or closed at the designated landing.

Clause 5.3.5 of BS EN 81-73:2016 allows two options for the operation of lift doors after the lift has been recalled to the designated landing, parking with doors open and parking with doors closed.

Attention is drawn to BS 9991:2015 and BS 9999:2008 which include recommendations in some cases for lifts to be removed from service with car and landing doors parked open and, in these cases, for the need to provide adequate fire protection of the lobby at designated landings.

The UK participation in its preparation was entrusted to Technical Committee MHE/4, Lifts, hoists and escalators.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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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

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.

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.
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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,
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.
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— 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 81-72, 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)


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