



BSI Standards Publication

Safety rules for the construction and installation of lifts — Lifts for the transport of persons and goods

Part 21: New passenger and goods passenger lifts in existing building

This is a preview of "BS EN 81-21:2022". [Click here to purchase the full version from the ANSI store.](#)

National foreword

This British Standard is the UK implementation of EN 81-21:2022. It supersedes BS EN 81-21:2018, which will be withdrawn on 31 May 2024.

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 committee manager.

This Standard gives alternative requirements for the installation of new lifts into existing buildings where compliance with BS EN 81-20:2020 is not possible due to problems with the existing material fabric of the building, such as the lack of available space for pit and headroom. As such it is intended to be applied as a standard supplementary to BS EN 81-20.

Users of this standard should be aware that the Lifts Regulations 2016 require any lift installed without permanently available refuge space at extremes of travel to be subject to prior approval by the Department for Business, Energy and Industrial Strategy (BEIS).

This refuge space has been agreed with BEIS as being that required in BS EN 81-20:2020, 5.2.5.7.1 and 5.2.5.8.1.

Therefore, lifts installed into existing buildings where such refuge spaces are not permanently available should have prior approval from BEIS.

The UK Committee draws the attention of users of this Standard to its Scope which does not include lifts permanently installed in new buildings. Therefore, the use of this standard for a new lift in a new building, being outside its scope, would require prior approval by BEIS.

In addition, this Standard gives requirements for the continued use of perforate well enclosures, where already installed. Such enclosures have not been described in lift standards since the 1970s and are as such to be avoided where possible. It is not the intention of this standard to allow the installation of new perforate enclosures.

This publication has been prepared under a mandate given to the European Standards Organizations by the European Commission and the European Free Trade Association. It is intended to support requirements of the EU legislation detailed in the European Foreword. A European Annex, Annex ZA, describes how this publication relates to that EU legislation.

For the Great Britain market (England, Scotland and Wales), if UK Government designates this publication for conformity with UKCA marking (or similar) legislation, it will be listed on the relevant pages of <https://www.gov.uk/guidance/designated-standards> which will also list the date of withdrawal of the previous designated standard, EN 81-21:2009+A1:2012.

For the Northern Ireland market, UK law will continue to implement relevant EU law subject to periodic confirmation. Therefore Annex ZA in the European text, and references to EU legislation, are still valid for this market.

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UK Government is responsible for legislation. For information on legislation and policies relating to that legislation, consult the relevant pages of www.gov.uk.

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English Version

Safety rules for the construction and installation of lifts - Lifts for the transport of persons and goods - Part 21: New passenger and goods passenger lifts in existing building

Règles de sécurité pour la construction et l'installation des élévateurs - Élévateur pour le transport de personnes et d'objets - Partie 21 : Ascenseurs et ascenseurs de charge neufs dans les bâtiments existants

Sicherheitsregeln für die Konstruktion und den Einbau von Aufzügen - Aufzüge für den Personen- und Gütertransport - Teil 21: Neue Personen- und Lastenaufzüge in bestehenden Gebäuden

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
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Annex ZA (informative)

Relationship between this European Standard and the essential requirements of Directive 2014/33/EU aimed to be covered

This European Standard has been prepared under a Commission's standardization request "M/549 C(2016) 5884 final" to provide one voluntary means of conforming to requirements of Directive 2014/33/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to lifts and safety components for lifts (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in [Table ZA.1](#) and [Table ZA.2](#) confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding essential requirements of that Directive, and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2014/33/EU

Essential health and safety requirements of Annex I to Directive 2014/33/EU	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1	See below Table ZA.2	
2.1	5.2	
2.2	5.5 5.7	
3.3	5.5.2.4 5.7.2.4	
4.3	5.3 5.4	
4.4	5.8	
6.2 a)	7	

Table ZA.2 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC

Essential health and safety requirements of Annex I to Directive, 2006/42/EC	Clause(s)/sub-clause(s) of this EN	Remarks/Notes
1.1.2 (a)	5 , 6 , 7	
1.1.2 (c)	5 , 6 , 7	
1.1.2 (e)	5 , 6 , 7	
1.1.6	5.9 5.10 , 5.11 , 5.12	
1.2.1	5.5.3.1 , 5.5.3.2 , 5.5.3.3 5.7.3.1 , 5.7.3.2 , 5.7.3.3 5.13	
1.5.15	5.6	

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1.6.1	5.4 5.5 5.6 5.7	
1.6.2	5.9, 5.10, 5.11, 5.12	
1.7.1	7.2	
1.7.2	7.2	
1.7.4	7.1	

WARNING 1 Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

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European foreword

This document (EN 81-21:2022) 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 November 2022, and conflicting national standards shall be withdrawn at the latest by May 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 81-21:2018.

In comparison with the previous edition, the following significant changes have been made:

- normative references have been updated;
- sub-clause 6.3 has been deleted;
- [Annex B](#) has been deleted;
- [Annex ZA](#) has been modified.

No technical changes have been made in Clause 5 during this revision.

This document is intended to be used in conjunction with 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.

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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. The main concern dealt with in this document is the reduction of top and pit clearances that may be required due to site conditions. The adopted principle of safety is based on two levels of achievement: first by means of an electrical stopping of the lift car, then by means of a mechanical stopping of the lift car.

In order to have a uniform understanding of the requirements of this document, an existing building within the terms of this document is understood to be one which was already in use before the lift was installed. A building whose internal structure is completely renewed is considered as a new building within the terms of this document.

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1 Scope

This document specifies the safety rules related to passenger and goods/passenger lifts installed in existing buildings where limitations enforced by certain building constraints mean that some requirements of EN 81-20:2020 cannot be met.

It addresses the following constraints and gives requirements for alternative solutions:

- existing perforate walls of the lift well;
- reduction in available well are leading to reduced distance between car, counterweight or balancing weight;
- counterweight or balancing weight in a separate existing well;
- reduced building dimensions and clearances leading to:
 - reductions in available space for headroom and pit;
 - reduced car roof balustrade dimensions;
 - reduced height of sill apron;
 - reduced height of machine and/or pulley room;
 - reduced available area for access door/trap door;
 - reduction in available height of landing doors.

This document is not applicable to 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)*

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

ISO 3864-1:2011, *Graphical symbols — Safety colours and safety signs — Part 1: Design principles for safety signs and safety markings*

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/>