

18 **British, European and International Standardization for transportation systems in buildings**

Standards, Technical Specifications, Technical Reports, Guides, Codes of Practice, Publicly Available Specifications

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18 British, European and International Standardization for transportation systems in buildings

Standards, Technical Specifications, Technical Reports, Guides, Codes of Practice, Publicly Available Specifications

This chapter is provided to indicate how Standards, Technical Specifications, Technical Reports, Guides, Codes of Practice and Publicly Available Specifications are produced for the vertical transportation industry in the UK, Europe and internationally. It is supported by listings in Annex 1.

18.1 British Standards

18.1.1 Overview

The British Standards Institution (BSI) was established in 1901 as the Engineering Standards Committee and it was granted a Royal Charter in 1929, with the organization's aims and objectives including:

- *promoting trade*: by developing common industrial standards;
- *reducing waste*: by simplifying production and distribution;
- *protecting the consumer*: through the use of licensed marks to identify conformity to standards.

Its current tag line is: 'making excellence a habit'.

The British Standards Institution was adopted as the organization name in 1931. BSI has a Memorandum of Understanding with the UK Government, which establishes the position of BSI as the recognized UK National Standards Body.

BSI is a non-profit distributing organization and offers global services in the linked fields of standardization, systems assessment, product certification, training and advisory services operating as BSI Group.

It is an independent organisation that works with industry, trade associations and government to produce British, European and International standards.

BSI is also involved in a revenue earning activity of quality assurance management systems with the aim being 'to help British business become more efficient and competitive'.

BSI also offers a range of testing and certification services including new product development, pre-assessment, gap analysis, batch testing and full compliance testing as an EU Notified body (UK Designated Body). BSI Testing provides a revenue stream and has one of the widest testing and certification capabilities in the world.

BSI is heavily involved in the work of the International Organisation for Standardisation (ISO), the International Electro-technical Commission (IEC), European committee for Standardisation (CEN) and the European committee for Electro-technical Standardisation (CENELEC) in the production of standards, some of which are harmonised to European Directives.

For more details visit: <https://www.bsigroup.com/en-GB>

BSI produces three main types of documents: Standard Specifications (commonly referred to simply as 'Standards'), Codes of Practice and Publicly Available Specifications (PAS).

A Standard Specification gives a coherent set of absolute requirements, each objectively verifiable. The result is a non-negotiable set of criteria for products, services or systems. It is particularly suited to

giving the performance criteria demanded of a product, or the fundamental elements of a service or management system. BS 'standards' can cover a wide range of subjects from construction to nanotechnology; energy management to health and safety; cricket balls to goalposts. They can be very specific, such as to a particular type of product, or general such as management practices. They may contain requirements as indicated by the auxiliary verb 'shall' or recommendations indicated by the auxiliary verb 'should'.

Example: BS 5900: 2012: *Powered home lifts with partially enclosed carriers and no lift way enclosures. Specification*

A code of practice contains recommendations and supporting guidance, where the recommendations relevant to a given user have to be met in order to support a claim of compliance. Users may also justify substitution of any of the recommendations in a code of practice with practices of equivalent or better outcome. Depending on the context and field of application, a code of practice usually reflects current good practice as employed by competent and conscientious practitioners. The auxiliary verb 'should' is employed and other auxiliary verbs are 'can' for a physical possibility and 'may' granting permission.

Example: BS 7255: 2012: *Code of practice for safe working on lifts*

A publicly available specification (PAS) is a fast-track standardization document. It defines good practice standards for a product, service or process. It may be sponsored by an industry. It is a living document and is reviewed after three years and may then become a standard specification or code of practice.

Example: PAS 32-1: 1999: *Specification for examination and test of new lifts before putting into service. Electric traction lifts*



WARNING: Standards are always subordinate to the law and they are drafted so as to avoid any confusion between the provisions of a standard and requirements imposed by law. Compliance with a standard specification, code of practice or publicly available specification does not of itself confer immunity from legal obligations.

18.1.2 UK Lift Committee

The Mechanical Handling Equipment (MHE) technical committee (MHE/4), under the direction of the BSI Standards Policy and Strategy Committee, is responsible for UK British standards and input into the work of CEN/TC10 and ISO/TC178 relating to lifts, hoists (excluding builder's hoists), escalators and moving walks. MHE/4 is responsible for providing experts for the various CEN (TC10) and ISO (TC178) committees in developing standards

The MHE/4 technical committee is made up of members from trade associations, professional institutions, user groups, government departments, notified bodies and local authorities representing the many different requirements and opinions associated with the vertical transportation industry. The current membership includes representatives from: Association for Consultancy and Engineering (ACE), Department for Business, Energy and Industrial Strategy (BEIS), British Healthcare Trades Association (BHTA); CIBSE; Ministry of Housing, Communities and Local Government (MHCLG); Health and Safety Executive (HSE), Institution of Engineering and Technology (IET), Institution of Mechanical Engineers (IMechE), Institution of Occupational Safety and Health (IOSH), Lift and Escalator Industry Association (LEIA), London Underground Limited (LUL), Northern Ireland Chamber of Commerce Standards Limited (NICC), Safety Assessment Federation (SAFed), Society of Operations Engineers (SOE), University of Northampton.

The technical committee is large and to deal with the work efficiently and speed up the decision making process, the MHE/4 technical committee has delegated particular tasks to an Advisory Panel (standing committee) and a number of subcommittees and panels.

The Advisory Panel includes in its terms of reference the possibility to '...take executive decisions on the behalf of MHE/4 where agreed by the chairman...'

The subcommittees and panels include members from the main MHE/4 committee, with a direct interest and specialist knowledge in the particular tasks and it is possible to co-opt persons with a particular expertise, when required. Each subcommittee and panel has its terms of reference and

reports back to MHE/4 and its advisory panel on progress and for guidance on policy matters. Convenors of sub-committees are usually nominated by MHE/4, although it can be left to the subcommittee members to elect their own chair. Generally, the sub-committees and panels are not permanently constituted and once they have completed their task(s) they are either disbanded or retained to deal with future amendments.

18.1.3 Developing a British Standard

Once national work has been approved by MHE/4, a subcommittee is formed to create a new document or revise/amend an existing document as a Committee Draft (CD). Once complete it is edited by BSI and the draft standard or code of practice is circulated as a Draft for Public Comment (DPC). Comments received are collated by the secretary, circulated to the originating sub-committee or panel for resolution. Once this process is complete the MHE/4 Committee approves the document and it is signed-off by the MHE/4 chair. The process does not include any voting procedure.

In the production of national standards, BSI aims to ensure that they are consistent in content and format. For some time this has included European and international work, which is eventually either produced as a national standard or, more usually, as a BS EN or BS ISO.



NOTE: In general, a standard will not be created or maintained if it relates to a product which is less than 5% of the market place. For example: prEN 81-7: *Rack and pinion lifts*.

18.1.4 Interpretations and commenting procedure

18.1.4.1 Interpretations

The content of British Standards is sometimes not clear owing to textual ambiguities or changes in technology. To allow for these difficulties to be resolved an interpretation request is sent to BSI. The procedure is for the request to be made to the Secretary of MHE/4. The Secretary may be able to resolve the query, e.g. advise the correct standard to apply. If the Secretary is not able to do this the query is passed to the Chair of MHE/4, who with the help of other members of MHE/4 will prepare a response.

18.1.4.2 Commenting on British standards

When a new or revised British Standard, Code of Practice etc. is prepared in draft it is sent out for public comment as a DPC. Anyone can comment by registering with BSI, see Appendix 18.1. Note 18.1.3 indicates that the comments are considered by the MHE/4 committee for resolution.

BSI prefers the comments to be presented in a constructive way and make use of the CEN/ISO Commenting Template, see Appendix 18.1, Table 18.1, for an example.

18.1.5 Published standards

The British Standards Institution has been publishing standards related to moving of people in buildings since the 1970s. The first coordinated family were designated BS 2655 and included lifts, escalators, passenger conveyers and paternosters. In the 1980s lift standards became the BS 5655 family and escalators and moving walks became the BS 5656 family. Eventually numbering followed a 'next number available' protocol and the family sequence was lost.

A list can be found in Annex A1.2.

18.2 European Committee for Standardization (CEN)

18.2.1 Overview

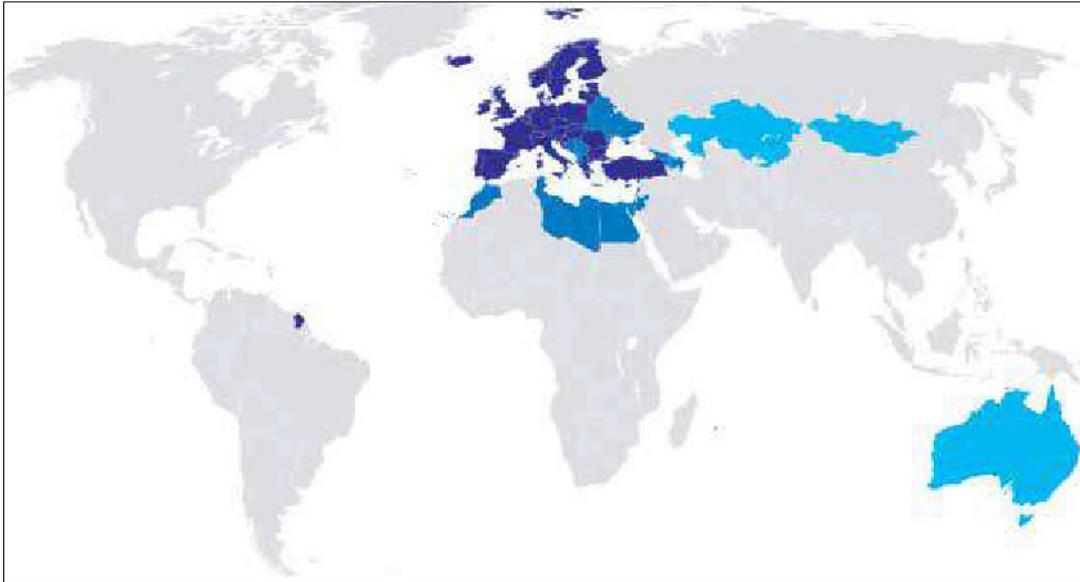


Figure 18.1 Global coverage of CEN (source: Wikipedia/Gadren: self-made, based on Image:BlankMap-World-v5.png and information on the ECS wiki page, CC BY-SA 4.0; <https://commons.wikimedia.org/w/index.php?curid=3282702>)

CEN (Comité Européen de Normalisation/European Committee for Standardization) and CENELEC, the electro-technical committee coordinate the work of 34 member countries in the making and the dissemination of European standards. Its tag line is: 'Standards build trust'.

CEN was founded in 1961 to build a European internal market for goods and services and to position Europe in the global economy.

CEN members are the 34 national standards bodies of 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 United Kingdom.

CEN has 16 affiliates: Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Egypt, Georgia, Israel, Jordan, Lebanon, Moldova, Montenegro, Morocco, Tunisia and Ukraine

CEN has three partner standardisation bodies: Australia, Mongolia, Kazakhstan.

See Figure 18.1 above, which shows the world wide coverage.

CEN produces several types of document including:

- *European Standard (EN)*: a standard adopted by CEN/CENELEC and carrying with it an obligation of implementation as an identical national standard and withdrawal of conflicting national standards.
- *Technical Specification (TS)*: a document for which there is the future possibility of agreement on a European Standard, but for which support and consensus cannot be obtained or the subject matter is under development.
- *Technical Report (TR)*: a document containing informative material not suitable to be published as a European Standard or a Technical Specification.
- *Guide*: a document giving rules, orientation, advice or recommendations relating to European standardization.

For more details visit: https://boss.cen.eu/ref/IR3_E.pdf

18.2.2 European Lift Committee CEN/TC10

Work on the establishment of safety rules for the construction and installation of lifts, service lifts, escalators and moving walks is entrusted to Technical Committee 10 (TC10).

TC10 comprises a 13 Working Groups (WG) and one subcommittee. Some are very active and others are not.

- CEN/TC 10/WG 1: Lifts and service lifts
- CEN/TC 10/WG 2: Escalators and moving walks
- CEN/TC 10/WG 4: Data logging and remote control
- CEN/TC 10/WG 6: Fire related issues
- CEN/TC 10/WG 7: Accessibility to lifts for persons including persons with disability
- CEN/TC 10/WG 8: Stairlifts and vertical platforms for the disabled
- CEN/TC 10/WG 9: Inclined lifts
- CEN/TC 10/WG 10: Improvement of safety of existing lifts
- CEN/TC 10/WG 11: Lifting appliances for wind turbines
- CEN/TC 10/WG 12: Lifting tables
- CEN/TC 10/WG 13: Vertical lifting appliance with enclosed carrier
- CEN/TC 10/SC 1: Building hoists

18.2.3 Developing a European Standard

The development of a European Standard (EN) is governed by the principles of consensus, openness, transparency, commitment and technical coherence. The development follows a six-step procedure:

- *Proposal*: A CEN member or interested party, e.g. a manufacturers association, puts forward a proposal.
- *Drafting*: Once a proposal is accepted then a technical committee of independent experts is formed to draft the standard. All national work on the same topic is stopped (standstill).
- *Enquiry*: Once the draft standard is complete it is sent out for public comment as a prEN (provisional standard). If the Enquiry reaches a majority the draft becomes the standard.
- *Final vote*: If at the Enquiry stage a number of technical changes are proposed then the drafting committee revises the standard and it is submitted for a Final Vote (FV).
- *Publication*: On a successful outcome by qualified majority (QMV) voting the standard is published
- *Adoption*: Following the approval of the EN, either from the Enquiry or the Formal Vote, the EN then is published.



NOTE: Voting is by qualified (weighted) majority vote.

18.2.4 Interpretations and commenting procedure

18.2.4.1 Interpretations

The content of European Standards is sometimes not clear owing to textual ambiguities or changes in technology. To allow these difficulties to be resolved the responsible committee at the European Standards Committee (CEN/TC10) has a procedure where a user of a standard can make an Interpretation Request.

In the UK such a request is channelled through the MHE/4 committee at BSI. The procedure is for an interpretation request to be made to the Secretary of MHE/4. The Secretary may be able to resolve the query, e.g. advise the correct standard to apply. If the Secretary is not able to do this the query is

passed to the Chair of MHE/4, who with the help of other members of MHE/4 may be able to provide an answer. Should this not be possible then MHE/4 will make a formal Interpretation Request to the appropriate committee at CEN. Usually the Convenor of the appropriate committee proposes an answer, which is circulated for approval and subject to that the answer is published. This process can take some time.

A list of interpretations is given in Annex A1.6.

18.2.4.2 Commenting on CEN standards

When a new or revised CEN Standard, Code of Practice etc. is prepared in draft it is sent out for comment as a prEN (provisional European Norm) to all member bodies of CEN. Each member body decides how the comments are obtained. BSI may send out a call for public comments, but usually the comments are provided by MHE/4 members and their sponsoring bodies only.

CEN require the comments to be presented in a constructive way and make use of the CEN/ISO Commenting Template. See Table A18.1 for an example of use.

18.2.5 Published standards etc.

A published European Standard must be given the status of national standard in all member countries, i.e. as a BS EN in the UK. Member countries also have an obligation to withdraw any national standards that conflict with it.

Some standards are termed 'Harmonised Standards'. This term is used in Regulation (EU) No. 1025/2012 of the European Parliament and of the Council, meaning a European Standard adopted on the basis of a request made by the Commission (M/549, 2016) for the application of Union harmonisation legislation, i.e. the Lifts and Machinery Directives.



WARNING: In May 2019 the European Commission required CEN to revise its EN 81 family of standards to include 'an accurate Annex ZA, dated normative references and amended foreword'. The proposed time scale for this revision is:

- *Full revision:* EN 81-20/50; first quarter, 2020
- *Partial revision:* EN 81-21/28/58/70/71/77; third quarter, 2020
- *Complete revision:* entire family; third quarter, 2022

The entire family includes: EN 81-72/73, etc. Users of this Guide are advised to check the progress of these revisions

The numbering of European lift standards is mostly logical in the EN 81 family, although there are some that are numbered outside this family, e.g. BS EN 1570: *Lifting tables. Escalators and moving walks*, are generally in the EN 115 family. There are shared standards such as EN 12015/16 for electromagnetic compatibility (EMC).

A list can be found in Annex A1.3.

Figure 18.2 below illustrates the EN 81 lift family structure and shows where the standards published at the time of publication of this Guide fit into the structure.

EN 81-1x	EN 81-2x	EN 81-3x	EN 81-4x	EN 81-5x	EN 81-6x	EN 81-7x	EN 81-8x
Basics and Interpretations	Lifts for transport of persons and goods	Lifts for transport of goods only	Special lifts for transport of persons and goods	Evaluations	Documentation for lifts	Particular applications persons and goods	Existing lifts
10 System of standards	20 Passenger and goods passenger lifts	30 Service lifts	40 Stair lifts	50 Design rules, calculations, examinations and tests		70 Accessible lifts	80 Improvement of existing lifts
11 Interpretations	21 New lifts in existing buildings	31 Accessible goods only	41 Vertical lifting platforms	58 Landing door fire tests		71 Vandal resistant	82 Improvement of accessibility
12 EN 81-21/50 lifts in specific markets	22 Electric lifts with inclined path		43 Lifts for access to workplaces			72 Firefighters lifts	83 Improvement of vandal resistance
	28 Remote alarms		44 Lifting appliances in wind turbines			73 Behaviour of lifts	
	29 Special interpretations					76 Evacuation lifts	
						77 Lifts in seismic conditions	

Figure 18.2 Illustration of the structure for the EN 81 family of standards

18.3 ISO Standards etc.

18.3.1 Overview

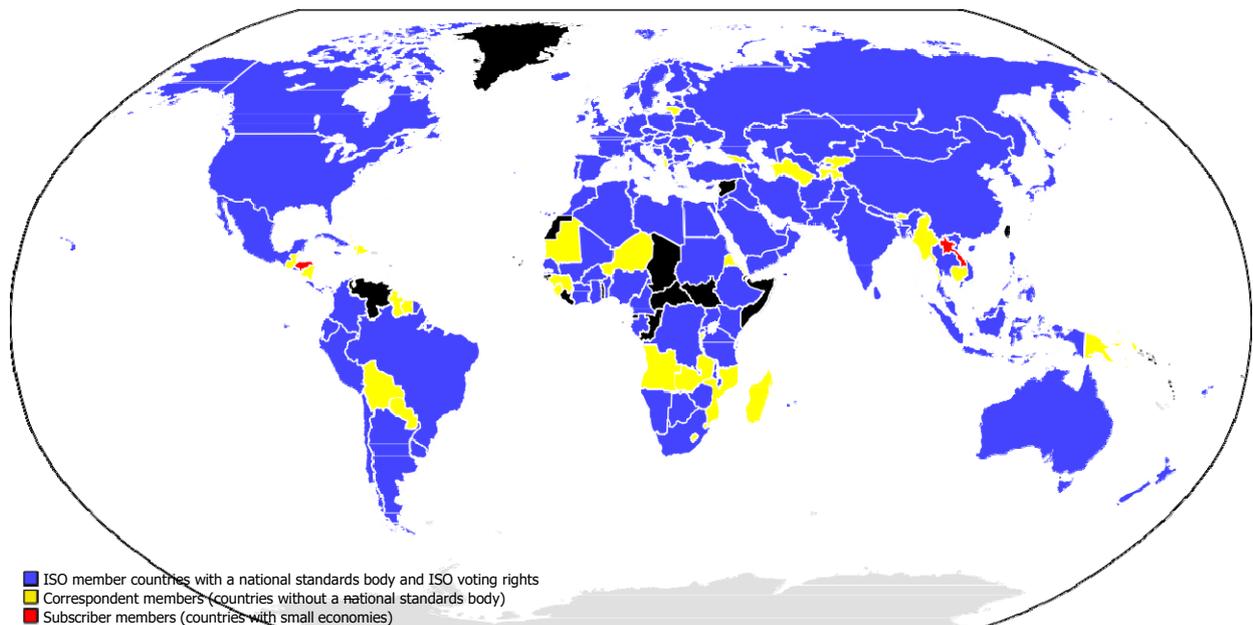


Figure 18.3 Global coverage of ISO (source: Wikipedia/Ichwan Palongengi; Own work, Public Domain; <https://commons.wikimedia.org/w/index.php?curid=5527358>)

The International Standards Organisation (ISO) story began in 1946 when delegates from 25 countries met at the Institution of Civil Engineers in London and decided to create a new international organization 'to facilitate the international coordination and unification of industrial standards'. On 23 February 1947 the new organization, ISO, officially began operations. Since then, ISO has published over 22 000 International Standards, covering almost all aspects of technology and manufacturing.

Today ISO has members from 164 countries and 785 technical committees and subcommittees to take care of standards development, see Figure 18.3 above. More than 135 people work full time for ISO's Central Secretariat in Geneva, Switzerland.

Its tag line is: 'When the world agrees'.

ISO produces several documents including:

- *International Standard (ISO)*: A standard established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context based on the consolidated results of science, technology and experience, and aimed at the promotion of optimum community benefits.
- *Technical Specification (ISO/TS)*: A document published by ISO or IEC for which there is the future possibility of agreement on an International Standard, but for which support and consensus cannot be obtained or the subject matter is under development. Competing Technical Specifications on the same subject are permitted.
- *Technical Report (ISO/TR)*: A document published by ISO or IEC containing collected data of a different kind from that normally published as an International Standard or Technical Specification. Such data may include, for example, data obtained from a survey carried out among the national bodies, data on work in other international organizations or data on the 'state of the art' in relation to standards of national bodies on a particular subject.
- *Guide*: A document published by ISO or IEC giving rules, orientation, advice or recommendations relating to international standardization. For a list of guides visit: <https://www.iso.org/iso-guides.html>
- *Publicly Available Specification (ISO/PAS)*: A document published by ISO or IEC to respond to an urgent market need, representing either a consensus in an organization external to ISO or IEC, or a consensus of the experts within a working group. Competing Publicly Available Specifications on the same subject are permitted.

For details visit: https://www.iec.ch/members_experts/refdocs/iec/isoiecdir2%7Bed8.0.RLV%7Den.pdf

18.3.2 International Lift Committee ISO/TC178

Work on the standardization of all aspects, including safety, of lifts, service lifts, escalators, moving walks and similar apparatus (excluding continuous mechanical handling equipment and lifts in mines) is entrusted to Technical Committee 178 (TC178) and comprises seven Working Groups (WG) some of which are active and others that are not.

- ISO/TC 178/WG 2: Guide rails
- ISO/TC 178/WG 4: Safety requirements and risk assessment
- ISO/TC 178/WG 5: Escalators and moving walks
- ISO/TC 178/WG 6: Lift installation
- ISO/TC 178/WG 8: Electrical requirements
- ISO/TC 178/WG 10: Energy efficiency
- ISO/TC 178/WG 11: Methodology for the improvement of safety of existing passenger and goods passenger lifts

18.3.3 Developing an International Standard

The development of an International Standard (ISO) is governed by the principles of consensus, openness, transparency and technical coherence. The development follows a six-step procedure:

- *Proposal*: an ISO member of an interested party puts forward a proposal.
- *Drafting*: once a proposal is accepted then a technical committee of experts is formed to draft the standard. All CEN work on the same topic is stopped (standstill). A Committee Draft (CD) is developed.
- *Enquiry*: once the CD is complete it is sent out for public comment as a DIS (draft international standard).
- *Final vote*: if at DIS stage a number of technical changes are proposed then the drafting committee revises the standard it is submitted for a Final Vote (FDIS).
- *Publication*: on a successful outcome by a majority vote (one vote per member) the standard is published
- *Adoption*: following the approval of the ISO Standard, those members voting for it should adopt it as a national standard, i.e. BS ISO. Members who did not vote for it may decide not to adopt it.

Figure 18.4 illustrates this process as a flowchart.

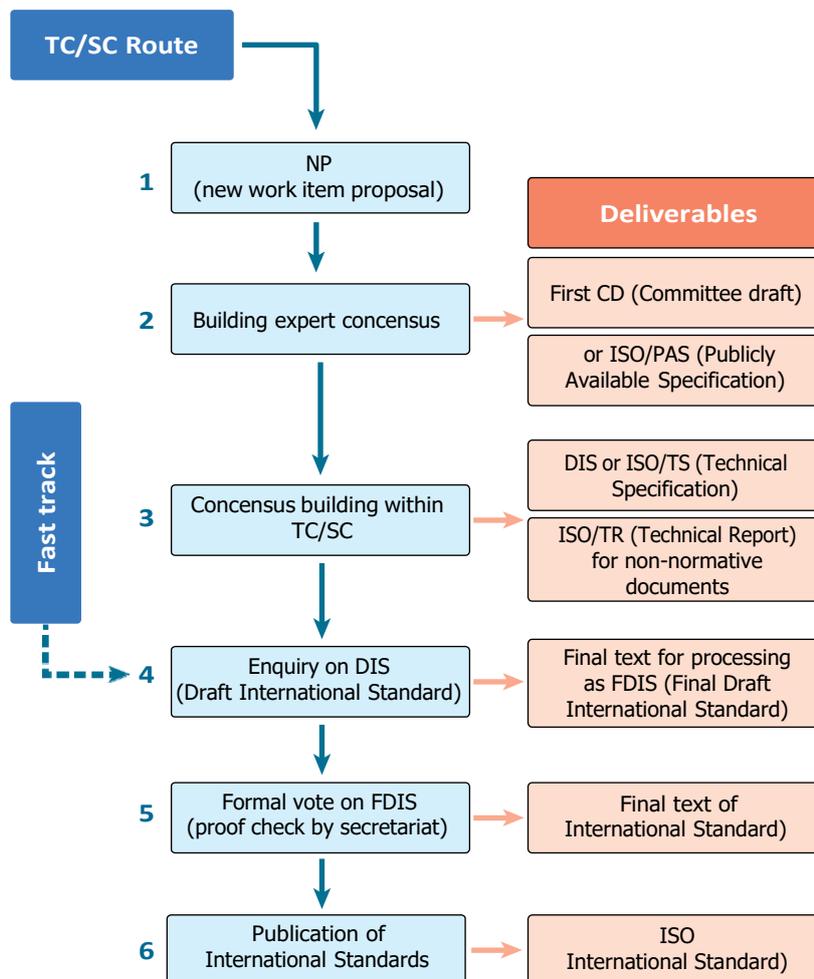


Figure 18.4 Developing an ISO standard document

18.3.4 Interpretations and commenting procedure

18.3.4.1 Interpretations

The content of international standards is sometimes not clear owing to textual ambiguities or changes in technology. At the time of publication there is no developed ISO mechanism for interpretation requests.

18.3.4.2 Commenting on an ISO standards

When a new or revised ISO Standard, Code of Practice etc. is prepared in draft it is sent out for comment as a DIS (Draft International Standard) to ISO member bodies. BSI may send out a call for public comments, but usually the comments are provided by MHE/4 members and their sponsoring bodies only.

ISO require the comments to be presented in a constructive way and make use of the CEN/ISO Commenting Template. See Appendix 18 for details of procedure and use.

18.3.5 Published standards etc

There is no family structure to ISO standards, etc. After proposal a document takes the next available number or fills gaps in the system. A list can be found in Annex A1.4.

18.4 Development of an ISO prescriptive standard for lift safety

The two standardisation organisations in the world, that most influence the lift, escalator and moving walk industry are CEN and ISO. The remit of CEN runs in Europe and other nearby countries and has a legal remit in the European Union. The ISO offers global standards. CEN and ISO have a proposal for a road map for some European standards to become ISO standards

At the moment there are three main standards for lifts, with globally relevant use, which have been developed independently. These are:

- ASME A17/CSA B44 series standards developed in North America
- EN 81 series standards developed in Europe
- JIS/JEA series standards developed in Japan.

Of these three the EN 81 series has the most penetration across the world. The influence of the ASME/CSA standard is small owing to its small installed estate of lifts in North America. Similarly, the JEA family of standards is mainly limited to Japan.

Each standards family achieves safe lifts, but in different ways. Unfortunately, these standards have significant differences in their detailed requirements, which cause manufacturing problems and create barriers to trade. In order to remove such barriers there is a need for ISO prescriptive standards.

The North American and Japanese standardisation bodies have agreed to work with CEN in Europe and ISO towards an ISO family of lift standards and a road map has been agreed. In summary the time line is:

- Phase 1: 2014–2017 (CEN lead): identical adoption of EN 81-20/50 as ISO 8100-1/2 and creation of a regional TS/ISO 8100-3
- Phase 2: 2017–2020 (CEN lead): first amendment to ISO 8100-1/2/3
- Phase 3: 2020–2023 (ISO lead): regular (every 3 years) revisions and incorporation of regional TS/ISO 8100-3

Post-December 2026, the objective of the road map is to be achieved.

Table 18.1 below shows the structure of the various ISO standards and how the existing (irregularly) numbered related standards are incorporated. The ISO 8100 – 8105 series of standards is continually

changing and will replace most of the CEN standards post-2020. The table is correct at the time of going to press. Some existing EN and ISO standards map across. Others are not yet decided. Thus, the third column is subject to change. Numbers not shown are kept free.

TS 8100-3 is created to deal with North American and Japanese variations, similar to the special markets standard EN 81-12 applied in Europe.



NOTE: It is possible to trace this welcome development back to BSI. The first EN 81-1/2 standards were based on BS 5655-1/2, which in turn were based on the BS 2655 series. Many of the other British Standards were adopted by CEN and improved.

Table 18.1 System of the ISO 8100 to ISO 8105 series of standards

ISO number	Description	EN/ISO number
Family of the ISO 8100 series of standards: lifts for the transport of persons and goods		
8100-1	Safety requirements for passenger and good passenger lifts	EN 81-20
8100-2	Design rules, calculations, examinations and tests of lift components	EN 81-50
TS 8100-3	Regional differences (North America and Japan) for passenger and goods passenger lifts (elevators)	New
8100-4	Firefighters lifts	EN 81-72?
8100-5	New lifts in existing buildings	EN 81-21?
8100-6	Remote alarm for passengers and goods passenger lifts	EN 81-28?
8100-7	Control devices, signals and additional fittings	ISO 4190-5
8100-8	Specific requirements for lifts in ships	ISO 8383
8100-20	Global essential safety requirements (GESRs)	ISO/TS 22559-1
TS 8100-21	Global safety parameters (GSPs) meeting the global essential safety requirements (GESRs)	ISO/TS 22559-2
TS 8100-22	Prerequisites for certification of conformity of lift systems, lift components and lift functions within global conformity assessment procedures (GCAP)	ISO/TS 22559-3
TS 8100-23	Certification and accreditation requirements within global conformity assessment procedures (GCAP)	ISO/TS 22559-4
TR 8100-24	Convergence of safety requirements for lifts	ISO/TR 22559-5
8100-30	Class I, II, III and VI lifts installation	ISO 4190-1
8100-31	Class IV lifts installation	ISO 4190-2
8100-32	Planning and selection of passenger lifts to be installed in residential buildings	ISO 4190-6
8100-33	T-type guide rails for lift cars and counterweights	ISO 7465
8100-34	Measurement of lift ride quality	ISO 18738-1
8100-40	Interpretations to ISO 8100 series of standards	New
Family of the ISO 8101 series of standards: fire safety on lifts		
8101-1	Requirements for lifts used to assist in building evacuation	ISO/TS 18870
TR 8101-10	Comparison of worldwide safety standards on lifts for firefighters	ISO/TR 16765
TR 8101-11	Study of the methods used for fire testing lift landing doors	ISO/TR 25742
8101-12	Study into the use of lifts for evacuation during an emergency	ISO/TR 25743
Family of the ISO 8102 series of standards: electrical requirements for lifts, escalators and moving walks		
8102-1	Electromagnetic compatibility with regard to emission	ISO 22199
8102-2	Electromagnetic compatibility with regard to immunity	ISO 22200
8102-5	Programmable electronic systems in safety related applications on lifts (PESSRAL)	ISO 22201-1
8102-6	Programmable electronic systems in safety related applications on escalators and moving walks (PESSRAE)	ISO 22201-2
8102-7	Life cycle guideline for programmable electronic systems in safety related applications on lifts (PESSRAL) and escalators (PESSRAE)	ISO 22201-3

Table continues

Table 18.1 System of the ISO 8100 to ISO 8105 series of standards (*continued*)

Family of the ISO 8103 series of standards: escalators and moving walks		
8103-1	Safety requirements	EN 115-1?
TS 8103-5	Global essential safety requirements (GESRs)	ISO/TS 25740-1
TS 8103-6	Safety parameters meeting the GESRs	ISO/TS 25740-2
8103-8	Building Dimensions for escalators	ISO 9589
8103-9	Measurement of ride quality	ISO 18738-2
8103-10	Interpretations to ISO 8103 series of standards	New
Family of the ISO 8104 series of standards: improvement of safety on existing lifts and escalators		
8104-1	Improvement of safety on existing lifts	ISO 18235
8104-2	Improvement of accessibility on existing passengers and goods passenger lifts	EN 81-82
8104-3	Improvement of vandal resistance on existing passengers and goods passenger lifts	EN 81-83
8104-10	Improvement of safety on existing Escalators & moving walks	EN 115-2
ISO number	Description	EN/ISO number
Family of the ISO 8105 series of standards: other lifting appliances or equipment		
8105-1	Powered vertical lifting platforms for persons with impaired mobility	ISO 9386-1
8105-2	Powered stair lifts and inclined lifting platforms intended for persons with impaired mobility	ISO 9386-2
8105-3	Lifting appliances in wind turbines	New
8105-4	Service lifts (dumb waiter)	EN 81-3
8105-5	Goods only lifts (freight elevators)	EN 81-31
8105-10	Service lifts Class V installation	ISO 4190-3
Documents not part of the ISO 8100–8105 series of standards structure		
ISO 3008-2	Lift landing door fire resistance test (with TC92/SC2)	
ISO/TR 11071-1	Comparison of worldwide lift safety standards: Part 1: Electric lifts (elevators)	
ISO/TR 11071-2	Comparison of worldwide lift safety standards: Part 2: Hydraulic lifts (elevators)	
ISO 14798	Risk assessment and reduction	
ISO/TR 14799-1	Comparison of worldwide escalator and moving walk safety standards: Part 1: Rule by rule comparison	
ISO/TR 14799-2	Comparison of worldwide escalator and moving walk safety standards: Part 2: Abbreviated comparison and comments	
ISO/TR 16764	Lifts, escalators and passenger conveyors. Comparison of worldwide standards on electromagnetic interference/electromagnetic compatibility	
ISO 22201-1	Lifts (elevators), escalators and moving walks. Programmable electronic systems in safety-related applications: Part 1: Lifts (elevators) (PESSRAL)	
ISO/TR 25741	Lifts and escalators subject to seismic conditions. Compilation report	
ISO 25745-1	Energy performance of lifts, escalators and moving walks: Part 1: Energy measurement and verification	
ISO 25745-2	Energy performance of lifts, escalators and moving walk: Part 2: Energy calculation and classification for lifts (elevators)	
ISO 25745-3	Energy performance of lifts, escalators and moving walks: Part 3: Energy Consumption and Classification of Escalators and Moving Walk	

Reference

EU (2016) COMMISSION IMPLEMENTING DECISION C(2016) 5884 final of 21.9.2016 on a standardisation request to the European Committee for Standardisation as regards lifts and safety components for lifts in support of Directive 2014/33/EU of the European Parliament and of the Council M/549 (Brussels: European Commission) (available at <https://ec.europa.eu/growth/tools-databases/mandates/index.cfm?fuseaction=search.detail&id=571>) (accessed 5/05/20)

Appendix 18.1: Commenting procedure on British (UK) Standards

The following text is provided by BSI:

- The guidance given below is intended to ensure that all comments receive efficient and appropriate attention by the responsible BSI committee.
- This draft British Standard is available for review and comment online via the BSI British Standards Draft Review system (DRS) as <http://drafts.bsigroup.com>. Registration is free and takes less than a minute.
- Once you have registered on the DRS you will be able to review all current draft British Standards of national origin and submit comments on them. You will also be able to see the comments made on current draft standards by other interested parties.
- When submitting comments on a draft you will be asked to provide both a comment (i.e. justification for a change) and a proposed change.
- All comments will be checked by a moderator before they are made public on the site - the technical content of your comment will not be judged or modified; similarly your grammar or spelling will not be corrected. You will receive acknowledgement by email of all comments you submit via the DRS

BSI committee MHE/4 (Lifts, hoists and escalators) always asks for the CEN/ISO Commenting Template to be used. An example is shown below as Figure A18.1.1.

It will be noted that there are eight columns.

- Column 1 is normally used to indicate the member body, e.g. BSI, DIN, AFNOR etc. It can be used to number the comments or indicate the individual or organisation offering comments, e.g. Barney, Scott, SAFed, CIBSE etc.
- Columns 2 to 4 identify the part of the document being considered.
- Column 5 indicates whether the comment is General (G), Editorial (E) or Technical (T).
- Column 6 shall always state the comment in full.
- Column 7 shall offer the commentators solution.



NOTE: Should column 7 be empty then the comment may not be considered.

- Column 8 is used by the responsible committee, panel or group to indicate the outcome.

Template for comments and secretariat observations *Gina Barney*

Date: <i>Today</i>	Document: <i>ISO/DIS 8100-32</i>	Project: <i>GDD:2020</i>
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MB/ NC ¹	Line number	Clause/ Subclause	Paragraph/ Figure/ Table/	Type of comment ²	Comments	Proposed change	Observations of the secretariat
1	Title			G	The title of this standard is confusing as it implies that it covers all the aspects of planning and selecting a lift. It only is concerned with <u>traffic</u> planning and selection.	For clarity revise title to: Part 32: <u>Traffic</u> planning and selection of passenger lifts to be installed in office, hotel and residential buildings Also in Foreword. Also heading above Scope.	Agreed
2	Page 1	1		E	“planning” and “traffic planning” are used interchangeably.	For clarity, change all references to “traffic planning” 6 instances	Agreed
3	Page 3	3.4	Note 2	E	“j” is missing at end of source reference”	Correct	Done
4	Page 5	3.21		T	It is not be clear that nominal travel time is calculated by dividing the travel distance between terminal landings by the rated speed.	For clarity, add “Note 2 Nominal travel time is calculated by dividing the lift travel between terminal floors by the rated speed.”	Agreed
5	Page 6	3.30		T	“required handling capacity” and passenger demand terminology needs additional explanation.	For clarity add “Note 3 The required handling capacity determines the passenger demand (3.24), which is used in calculation and simulation. In calculation this is denoted %POP (4). In simulation passenger demand is specified in conjunction with a traffic mix (3.35).	Agreed
6	Page 7	3.41		T	Note 2 should include “opening” as this phase also yields zero time waiting for the passenger.	For clarity in Note 2 change “are open” to “are open or opening”.	Done

1 **MB** = Member body / **NC** = National Committee (enter the ISO 3166 two-letter country code, e.g. CN for China; comments from the ISO/CS editing unit are identified by **)

2 **Type of comment:** **G** = general **T** = technical **E** = editorial

Figure A18.1.1 Example of a commenting template