

Lifts Group

Minutes of the CIBSE Lifts Group AGM 6 February 2018

PRESENT

Philip Arshad, Network Rail
Tony Baker, Allianz
Tony Barkwith, Mottram Associates Limited
Gina Barney, Gina Barney Associates
John Bashford, J Bashford & Associates
Martin Baxter, Butler & Young Lift Consultants Ltd
Jonathan Beebe, Jonathan Beebe Ltd
Michael Bottomley, Movveo
Andrew Campbell, Traditional Lift Products Ltd
Ian Carter, Stannah Lift Services
Mathew Chiweda, Safety Nett Ltd
Steve Clarke, Butler & Young Lift Consultants Ltd
Dave Cooper, LECS UK LTD
Alan Cronin, Hilson Moran
Paul Davidson, Hampshire County Council
Lee Dean, LECS UK
Derek Finch, Crest Lifts
Graham Folkes, London Underground
John Gale,
Peter Georgiou, Thyssenkrupp Elevator
Ben Gonella, PCM
Ben Graham, Mitsubishi Electric UK
Karl Grey, Ascent Lift Consultancy Ltd
Malcolm Gulvin, Butler & Young Lift Consultants Ltd
Len Halsey, Canary Wharf Construction
Marta Hergueta, Foster and Partners
Philip Hiscock, Butler & Young Lift Consultants Ltd
Lionel Hutt, Lester Control Systems Ltd
Duncan Jones, Sweco Ltd
Stefan Kaczmarczyk, University of Northampton
Carl Keyser, Sweco
Troy Leach, British Engineering Services Ltd
Chuan Lim, Foster + Partners
Gordon Lucas, ILECS Ltd.
Hakeem Makanju, Transport for London
Val Maranan, Mitsubishi Electric UK
Nick Mellor, LEIA
Ron Moss, Atkins
Phil Pearson, Pearson Consult Ltd
Richard Peters, Peters Research Ltd
Ben Richardson, SWECO Ltd
Adam Scott, SWECO Ltd
Kevin Seaborne, TfL
Vince Sharpe, Allianz Engineering



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Ralph Smith, VerticA Consulting Limited
Jon Spragg, London Underground
Patrick Stapleton, City of London Corporation
Michael Turner, Lester Control Systems Ltd
Stella Uberti, Arup
Barry Vanderhoven, Abbacas Consulting Ltd
Gordon Wong, Mitsubishi Electric UK

APOLOGIES

Elizabeth Evans, Peters Research Ltd

DISTRIBUTION

Those present and web site

1. Welcome and apologies

The meeting was opened by LH. Apologies received were noted.

2. Minutes of previous meeting

The previous minutes were reviewed and accepted without amendment.

3. Matters arising

There were no matters arising not on the agenda.

4. Report for 2016

RP presented a summary of the activities for 2017. The slides for his presentation are attached to these minutes.

5. AGM Elections

The following people were proposed and elected unanimously as officers for the Lifts Group:

Chairman, Len Halsey
Vice Chairman, Michael Bottomley
Secretary, Richard Peters
Treasurer, Elizabeth Evans
BSI Representative, Adam Scott
Events Organiser, Gina Barney
Media WeeChuan Lim
Lift Academy, David Cooper
Exhibitions John Bashford
Events Team, Phil Pearson

Co-opted:

Nick Mellor, LEIA
Stefan Kaczmarczyk, University of Northampton

6. Events in 2018

GB reported that the annual seminar will be on 13 November 2018. This evening's workshop would be repeated in Manchester.

Full details of these events and instructions on how to book will be posted on the web site. www.cibseliftsgroup.org as soon as they are available.

RP reported that in 2018 there would be two Lift and Escalator Symposiums organised jointly with the University of Northampton and LEIA. The 8th Symposium will be held on 15 and 16 May in Hong Kong. The 9th Symposium will be held on 18 and 19 September in Northampton. Day 2 of the Hong Kong Symposium will include a CIBSE Guide D Workshop presented by RP/DC and Rory Smith; the workshop will be free to attend.

7. Treasurer's report

RP gave a summary of the accounts which had been reviewed by the committee. The accounts were approved. A copy is attached to these minutes.

8. Standards and Regulations

GB/AS provided an overview of the current status.

9. Any other business

None.

10. Next meeting

Then next Lifts Group AGM and Evening Meeting will be on 5th February 2019.

11. Presentation


The meeting was followed by:

1. A presentation on "The new suite of BS 8486 test standards" by Adam Scott, CIBSE Representative on BSI MHE/4 Lifts Committee
2. A workshop, "How do you comment on standards?" presented by Dr Gina Barney, IEE (IET) Representative on MHE/4




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London Evening Meeting and AGM 7 February 2017



The mysteries of lift maintenance – are lift owners getting a good service?
Phil Pearson, Pearson Consult Ltd



The mysteries of BIM Level 2 & LEXiCON – A Methodology for Delivering Structured Data
Paul Oakley Building Research Establishment.

47 people attended

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The Lifts Group Executive 2017

6

Manchester Evening Meeting 6 June 2017



"Lifts have stopped speaking to me - problems with AF induction loops"
John Trett. CE Electronics.



"Our Accessible World & The New Part 70"
Adam J Scott. SWECO
Presented by Dr Gina Barney

22 people attended

7

7th Symposium on Lift & Escalator Technology 20 - 21 September 2017 with The University of Northampton & LEIA



Two days Peer reviewed technical papers. International speakers and attendees.

The Lift And Escalator Symposium Educational Trust Charity No 1170947

www.liftsymposium.org for proceedings & videos

123 people attended

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LIFT & ESCALATOR SYMPOSIUM
升降機及自動梯研討會

2018 SYMPOSIUMS

8TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES
第八屆升降機及自動梯技術研討會
Renaissance Harbour View Hotel, Hong Kong
15 & 16 May 2018

9TH SYMPOSIUM ON LIFT & ESCALATOR TECHNOLOGIES
Highgate House, Northampton, UK
19 & 20 September 2018
www.liftsymposium.org

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CIBSE Lifts Group Accounts 2017

	Expenditure	Income	
Balance brought forward as at 1 February 2017			£4,148.78
AGM 2016 – 9 February 2017			
Dinner for speakers and exec	£161.43		£3,987.35
Manchester Event – 6 June 2017			
Mechanics Centre Room Hire & Catering	£385.00		£3,602.35
Annual Seminar – 8 November 2017			
EventBrite processing fees	£127.60		£3,474.75
Income from Delegate Fees		£1,725.00	£5,199.75
Balance as at 31st January 2018			£5,199.75

Elizabeth Evans
Treasurer.



**Evening meeting CIBSE Lifts Group
6 February 2018**

WORKSHOP

presented by:

Adam Scott

*CIBSE Lifts Group Representative to BSi-MHE/4
The BS 8486 Family of Standards*

and

Dr Gina Barney

IET-IEE Representative to BSi-MHE/4

Commenting on Standards

"We rely on commentators to spot errors"



Template for comments and secretariat observations

Date:	Document: ISO/
-------	----------------

1	2	3	4	5	6	7
MB ¹	Clause/ Subclause/ Annex/Figure/Table (e.g. 3.1, Table 2)	Paragraph/ List item/ Note/ (e.g. Note 2)	Type of com- ment ²	Comment (justification for change)	Proposed change	Secretariat observations on each comment submitted

Your ID here,
EG:
Gina,
LEIA,
h002

Examples
3,
3.1
3.1.2

Examples
2nd para,
Table X

G-E-T
General,
Editorial,
Technical

What the
comment is - as
concisely as
possible.
EG:
Wrong eqn.
A B

The resolution
as the
commentator
sees it.
EG:
Correct eqn.
A B

ID of
document

Final
decision
EG:
Agreed

1 MB = Member body (enter the ISO 3166 two-letter country code, e.g. CN for China)
2 Type of comment: ge = general te = technical ed = editorial
NB Columns 1, 2, 4, 5 are compulsory.

MB/NC ¹	Clause/Subclause (e.g. 3.1)	Paragraph/Figure/Table/ (e.g. Table 1)	Type of comment ²	Comments Justification for change	Proposed change	Observations of the secretariat
Gi	1.1	b)	E	BS ISO 4190-1 is undated	Add date: BS ISO 4180-1: 2010	
Gi	1.1b) and 1.1c)		T	It is not possible to check the car dimensions unless the rated load is stated first.	For clarity reverse 1.1 b) and 1.1 c)	
Gi	Intro	Note	T	<p>NOTE Tests involving a firefighters car key switch in BS EN 81-72:2015, 5.8.6 and 5.8.8 are included, but attention is drawn to the National Foreword of BS EN 81-72:2015.</p> <p>This note is important and should be upgraded to a clause.</p> <p>It should recite the National Foreword to Part 72 text and be more explicit.</p>	<p>Revise text to:</p> <p>Attention is drawn to the National Foreword of BS EN 81-72:2015, which states:</p> <p>Assumption k) in the Introduction relates to the possible provision of a firefighters car key switch. The usual practice in the UK is not to fit a firefighters car key switch. Provision of such a key switch would be subject to agreement with the fire and rescue service as part of negotiation.</p> <p>Nevertheless tests involving a firefighters car key switch in accordance with BS EN 81-72:2015, 5.8.6 and 5.8.8 are included at 4.1j) and 4.3h).</p>	

BSI Group Headquarters

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www.bsigroup.comDate: 01 December 2017
Origin: National

Latest date for receipt of comments: 13 February 2018

Project No. 2017/03277

Responsible committee: MHE/4 Lifts, hoists and escalators

Interested committees: MHE/4

Title: Draft BS 8486-8 Examination and test of new lifts before putting into service - Specification for means of determining compliance with BS EN 81

Part 8: Lift features for fire-fighting conforming to BS EN 81-72

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 13 FEBRUARY 2018This draft is issued to allow comments from interested parties; all comments will be given consideration prior to publication. No acknowledgement will normally be sent. See **overleaf for information on the submission of comments.**

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Direct tel: 01473 684477
E-mail: sophie.watson@bsigroup.com**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 13 FEBRUARY 2018.**

Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 –

Part 8: Lift features for fire-fighting conforming to BS EN 81-72

Introduction

Your comments on this draft are invited and will assist in the preparation of the resulting British Standard. If no comments are received to the contrary, this draft may be implemented unchanged as a British Standard.

Please note that this is a draft and not a typeset document. Editorial comments are welcome, but you are advised not to comment on detailed matters of typography and layout.

Submission of Comments

- 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.

- A link to the DRS, or to a specific draft hosted by the system, may be distributed to other interested parties so that they may register and submit comments. It is not necessary to purchase a copy of the draft in order to review or comment on it; however, copies of this draft may be purchased from BSI. Tel: +44(0)20 8996 9001 or email cservices@bsigroup.com. Drafts and standards are also available in PDF format for immediate download from the BSI Shop: <http://www.bsigroup.com/shop>.**WARNING: THIS IS A DRAFT AND MUST NOT BE REGARDED OR USED AS A BRITISH STANDARD. THIS DRAFT IS NOT CURRENT BEYOND 13 FEBRUARY 2018.**

Foreword

Publishing information

This part of BS 8486 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on XX Month 201X. It was prepared by Technical Committee MHE/4, *Lifts, hoists and escalators*. A list of organizations represented on this committee can be obtained on request to its secretary.

Relationship with other publications

BS 8486 is expected to be published in a number of parts:

- Part 1: *Electric lifts* (covering lifts conforming to BS EN 81-1);
- Part 2: *Hydraulic lifts* (covering lifts conforming to BS EN 81-1);
- Part 3: *Passenger and goods passenger lifts conforming to BS EN 81-20*;
- Part 4: *Passenger and goods passenger lifts in existing buildings conforming to BS EN 81-21¹⁾*;
- Part 5: *Lift alarm systems conforming to BS EN 81-28¹⁾*;
- Part 6: *Lift features for accessibility conforming to BS EN 81-70¹⁾*;
- Part 7: *Lift features for vandalism conforming to BS EN 81-71¹⁾*;
- Part 8: *Lift features for fire-fighting conforming to BS EN 81-72*;
- Part 9: *Lift features for emergency recall conforming to BS EN 81-73*;
- Part 10: *Lift features for evacuation conforming to BS EN 81-76¹⁾*;

This part of BS 8486 is intended to be read in conjunction with BS EN 81-72:2015.

Information about this document

BS EN 81-72:2003 was withdrawn on 31 August 2017 and replaced with BS EN 81-72:2015. BS 8486-8 is intended to be used as a means to verify conformity to BS EN 81-72:2015. BS 8486-1 and BS 8486-2 will remain available for testing lifts installed in accordance with BS EN 81-72:2003.

The Lifts Regulations 2016 [1] require the installer of a lift to take responsibility for its design, manufacture, installation and placing upon the market.

For conformity assessment, the Lifts Regulations 2016 [1] require that before placing upon the market and putting into service a lift shall have undergone certain procedures including inspection and test.

The inspection and test procedures may be undertaken by the installer provided that:

- the installer can demonstrate the necessary expertise by having an appropriate quality assurance system, and either
- the lift conforms to a harmonized standard; or
- the lift has a Type Examination Certificate or Design Examination Certificate from a Notified Body.

According to the requirements of the Lifts Regulations 2016 [1], in order for the installer to demonstrate the competence of the persons carrying out the testing of the lift it is necessary that they operate in accordance with a quality assurance system, monitored by a Notified

¹⁾ Intended for future publication.

Body. It might be necessary to make available certification of the quality assurance system in order to prove conformity with the Lifts Regulations.

NOTE Notified Bodies testing lift installations are expected to use the test report produced by the NBL Forum.

This part of BS 8486 specifies a means of determining compliance with BS EN 81-72. It does not cover every clause in BS EN 81-72 as many requirements are covered by the installer's quality control procedures or are elements of building design to be verified by the building designer.

This part of BS 8486 does not cover other issues that are part of the installer's quality assurance system such as calibration of mechanical and electrical test equipment used in the specified tests [e.g. force measurements (N), energy measurements (J), tachometers, voltmeters, ammeters, etc.].

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Attention is particularly drawn to the recommendations for safe working practices provided in BS 7255. Whilst BS 7255 was written to cover the hazards which can be encountered whilst a lift is undergoing regular maintenance, much of its content is equally applicable to the hazards found during the testing process.

BSI permits the reproduction of the tables in this part of BS 8486. This reproduction is only permitted where it is necessary for the user to record findings on the tables during each application of the standard.

It is assumed that manufacturers and installers will customize these tables to suit their product range, if necessary by removing questions which are not relevant to the lift to be tested.

The following documents are required for the examination and tests to be carried out:

- installation and test instructions;
- general arrangement drawings;
- electrical schematic drawings;
- copies of test certificates (including Type Examination Certificates and details to allow safety component verification);
- Notified Body approvals (if applicable) such as Type Examination Certificates and Design Examination Certificates.

This document is not applicable to existing lifts (installed to previous standards), although it may be used to record the examinations and tests for parts renewed to current standards and as guidance when examining and testing lifts that have been modified or repaired in accordance with BS 8899.

BS 8899:2016, Annex B contains past provisions for lifts with operation in the event of fire and examination and test procedures which were applicable to existing installations.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

It is recognized that certain tests/checks can be carried out more effectively before installation, and that others can only be made on site, unless it can be demonstrated by a quality assurance procedure and risk assessment that they can be performed with equal effectiveness off site. Answer boxes in this part of BS 8486 that contain a shaded square imply that the test should be carried out on site as part of installation or testing.

In this standard, the term "lobby" is used which is synonymous with "safe area" used in BS EN 81-72.

Contractual and legal considerations

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

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

Introduction

The examinations and tests in this part of BS 8486 are intended to be applied prior to the placing the lift into service for first use. Attention is drawn to the implications of testing when the lift is in beneficial use by builders or on any temporary supplies.

Within BS EN 81-72:2015 there are certain requirements relating to the building into which the firefighters lift is installed (see also BS 9999). Since these requirements relate to elements of the building and building design, rather than the lift, it is not generally expected that they will be examined or tested. It is assumed that these items have been verified by the building owner/designer. However, it might be necessary to confirm that the items have been addressed by the persons responsible before the lift can be placed into service.

Examples of such items are:

- the firefighters lift serves the floors required by the fire safety design for the building;
- dual entry lifts where the firefighters lift lobbies are not located at the same side as the lobby at the fire service access level;
- the fire-protected lobby, lift well and machinery spaces are designed to prevent the ingress of fire and smoke;
- the building design limits the flow of water, used as fire-fighting medium, into the lift well;
- firefighters lifts are not used as escape routes;
- a firefighters lift gives access at each level to a fire-protected lobby;
- a secondary power supply and automatic switch gear are provided and able to operate the lift for the required period;
- piping or cabling between machinery space(s) and lift well is fire-protected to the same fire protection level as the lift well structure.

NOTE Tests involving a firefighters car key switch in BS EN 81-72:2015, 5.8.6 and 5.8.8 are included, but attention is drawn to the National Foreword of BS EN 81-72:2015.

In drafting this part of BS 8486, it has been assumed that the same assumptions listed in BS EN 81-72 apply and that:

- items related to the building design have been verified by the building owner/designer as part of negotiation;
- where the lift is tested on a temporary supply, the supply characteristics are as the intended permanent supply or that, once the permanent supply is connected, relevant characteristics are checked;
- the electrical supply (primary and secondary) conforms to BS 7671 and has been tested and verified prior to installation of the lift.

1 Scope

This part of BS 8486 specifies one means of determining compliance with the provisions for examination, testing and recording results for new firefighters lifts specified in BS EN 81-72:2015, before being put into service.

2 Normative references

The following referenced documents are indispensable for the application 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.

BS 8486-3, *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 3: Passenger and goods passenger lifts conforming to BS EN 81-20*

BS EN 81-72:2015, *Safety rules for the construction and installation of lifts – Particular applications for passenger and goods passenger lifts – Part 72: Firefighters lifts*

3 Terms and definitions

For the purposes of this part of BS 8486, the terms and definitions given in BS EN 81-72 apply.

4 Examination and test of lifts and components

Where lifts are provided with firefighters controls, when the examination and tests specified in BS EN 81-72:2015 are carried out, the results shall be recorded using the questionnaires given in Tables 1 to 4 of this part of BS 8486. Once all these have been answered satisfactorily, the result shall be recorded in BS 8486-3:2017, Table 1.

All questions on the questionnaires shall be answered. Where a negative result (non-conformity) is recorded, it shall be clearly identifiable from a result confirming conformity. Answer boxes in the questionnaires that contain a shaded square indicate that the test shall be carried out on site. Those sections that are not required to be carried out on site may be completed at any time during the design, manufacture, installation or test of the lift.

NOTE It is essential to ensure that the safety requirements of BS EN 81-72 are all met and the associated risks addressed. This part of BS 8486 does not contain its own risk assessment but utilizes the risk assessment in BS EN 81-72.

Table 1 – Result of examination and test – Firefighters lifts – General

1.1 Fundamental firefighters lift requirements			
a)	Confirm that the lift serves floors in the building as required by the design of the building for fire. <i>NOTE BS 9999 recommends that the lift serves every floor necessary to fight fires.</i>	Yes	<input type="checkbox"/>
b)	Confirm that the car dimensions are in accordance with BS ISO 4190-1 but not less than 1 100 mm x 1 400 mm, in accordance with BS EN 81-72:2015, 5.2.2.	Yes	<input type="checkbox"/>
c)	Confirm that the rated load is ≥630 kg in accordance with BS EN 81-72:2015, 5.2.2.	Yes	<input type="checkbox"/>
d)	Confirm that the entrance width is ≥800 mm in accordance with BS EN 81-72:2015, 5.2.2.	Yes	<input type="checkbox"/>
e)	Confirm that when the lift is to be used for evacuation, the car dimensions are at least 1 100 mm x 2 100 mm in accordance with BS EN 81-72:2015, 5.2.3.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
f)	Confirm that when the lift is to be used for evacuation, the rated load is ≥1 000 kg in accordance with BS EN 81-72:2015, 5.2.3.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
g)	Confirm that the time to reach the furthest floor from access level is ≤60 s + 1 s for each additional 3 m travel over 200 m, in accordance with BS EN 81-72:2015, 5.2.4.	Yes	<input type="checkbox"/>
h)	Confirm that any electrical/electronic devices on landings other than at the fire service access level which are not designed to function correctly from 0 °C to 65 °C are made non-operational, in accordance with BS EN 81-72:2015, 5.2.5a).	Yes	<input type="checkbox"/>
i)	Confirm that any ambient temperature sensor does not stop and does not prevent starting of the firefighters lift, in accordance with BS EN 81-72:2015, 5.2.5a).	Yes	<input type="checkbox"/>
j)	Confirm that where a dual entry lift car is used, no more than one car door opens during firefighting operations in accordance with BS EN 81-72:2015, 5.2.6.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
k)	Confirm that the distance between consecutive landing doorsills, or intermediate emergency doors if required, does not exceed 7 m in accordance with BS EN 81-72:2015, 5.2.7.	Yes	<input type="checkbox"/>
l)	Confirm that the lift well and machinery spaces do not contain sprinklers, in accordance with BS EN 81-72:2015, 5.2.9.	Yes	<input type="checkbox"/>
m)	Confirm that horizontal car and landing doors are automatic and coupled in accordance with BS EN 81-72:2015, 5.6.	Yes	<input type="checkbox"/>

Table 1 – Result of examination and test – Firefighters lifts – General

1.2 Protection of electrical equipment against water			
a)	Confirm that all electrical equipment in the lift well below the highest landing level and within 1 m of any wall containing landing doors, on and within the car roof, and around and within the outer sides of the car walls, is protected against dripping and splashing water to at least BS EN 60529, IPX3, in accordance with BS EN 81-72:2015, 5.3.1 and 5.3.5.	Yes	<input type="checkbox"/>
b)	Confirm that the car roof prevents accumulation of water and facilitates draining from the roof in accordance with BS EN 81-72:2015, 5.3.5.	Yes	<input type="checkbox"/>
c)	Confirm that all electrical equipment within the lift well below the highest landing level located more than 1,0 m away from a wall containing a landing door is protected against dripping water to at least BS EN 60529, IPX1, in accordance with BS EN 81-72:2015, 5.3.1.	Yes	<input type="checkbox"/>
d)	Confirm that all electrical equipment less than 1,0 m above the pit floor is protected in accordance with BS EN 60529, IP67, in accordance with BS EN 81-72:2015, 5.3.2.	Yes	<input type="checkbox"/>
e)	Confirm that the socket outlet and lowest lamp in the pit are at least 0,5 m above the highest permissible water level, in accordance with BS EN 81-72:2015, 5.3.2.	Yes	<input type="checkbox"/>
f)	Confirm that equipment in any machinery spaces located outside the lift well is protected from malfunction caused by water, in accordance with BS EN 81-72:2015, 5.3.3.	Yes	<input type="checkbox"/>
g)	Confirm either that the measures in 1) have been provided or that both 2) and 3) are provided:		
1)	Drainage channels and/or raising or ramping of the floor are provided to every landing entrance of the lift well (whether to a safe area or otherwise), in accordance with BS EN 81-72:2015, 5.3.4 and E.2.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
2)	Means exist to prevent water in the pit reaching the height of the fully compressed car buffer, in accordance with BS EN 81-72:2015, 5.3.4.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
3)	Means exist to prevent the water level in the pit from reaching equipment which would create a malfunction of the lift, in accordance with BS EN 81-72:2015, 5.3.4.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>

Table 2 – Result of examination and test – Firefighters lifts – Rescue of trapped fire-fighters in the car

2.1 Emergency trap door			
a)	Confirm that an emergency trapdoor in the car roof is provided with clear opening dimensions (measured with the ladder in the rescue position) of at least 0,5 m x 0,7 m (0,4 m x 0,5 m for a rated load of 630 kg), in accordance with BS EN 81-72:2015, 5.4.1.1.	Yes	<input type="checkbox"/>
b)	Confirm that the following are in accordance with BS EN 81-72:2015, 5.4.1.2.		
1)	The emergency trap door conforms to BS EN 81-20:2014, 5.4.6 except for its size.	Yes	<input type="checkbox"/>
2)	Access to the inside of the car through the emergency trap door is not obstructed by any permanent fixture or lighting, and where a suspended ceiling is fitted, it is easily openable or removable without the use of special tools.	Yes	<input type="checkbox"/>
3)	The handling force of any part of the suspended ceiling to access the emergency trap door is less than 250 N, and the release point(s) are clearly identified from both inside and outside the car when the emergency trap door is opened for rescue.	Yes	<input type="checkbox"/>
c)	Confirm that when the emergency trap door is open, it blocks further operation of the lift, and that when redosed, the electrical switch is not reset without making a positive action, in accordance with BS EN 81-72:2015, 5.4.1.3.	Yes	<input type="checkbox"/>
2.2 Ladders (see BS EN 81-72:2015, 5.4.2)			
a)	Confirm that ladder(s) in their stored location do not cause a tripping hazard during normal maintenance operations and that they can be safely deployed, in accordance with BS EN 81-72:2015, 5.4.2.1.	Yes	<input type="checkbox"/>
b)	Confirm that an electrical safety device prevents operation of the lift if the ladder(s) is not in its stored position, in accordance with BS EN 81-72:2015, 5.4.2.2.	Yes	<input type="checkbox"/>
c)	Where a moveable ladder is provided for rescue purposes between the car and car roof, confirm that its length is at least 1 m longer than the car height and that it is positioned to the shorter side of the emergency trap door, in accordance with BS EN 81-72:2015, 5.4.2.3.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
d)	Confirm that the length of a moveable ladder for rescue procedures between the car roof and the next landing from the car allows the firefighter to release the landing door lock mechanism and open the landing door by hand, in accordance with BS EN 81-72:2015, 5.4.2.4.	Yes	<input type="checkbox"/>
e)	Confirm that moveable ladder(s) are not longer than 6 m in accordance with BS EN 81-72:2015, 5.4.2.4.	Yes	<input type="checkbox"/>
f)	Confirm that the ladder does not rest against landing doors and is supported from suitable points on the car roof, in accordance with BS EN 81-72:2015, 5.4.2.4.	Yes	<input type="checkbox"/>

Table 2 – Result of examination and test – Firefighters lifts – Rescue of trapped fire-fighters in the car

2.3 Rescue from outside the lift car (responsibility of local authorities) (see BS EN 81-72:2015, 5.4.3)			
Confirm that a ladder conforming to BS EN 81-72:2015, 5.4.2 is provided, which can be deployed from the car roof to allow descending into the car from the car roof. <i>NOTE 1 This can be the same ladder as used for rescue from inside the car).</i>		N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
<i>NOTE 2 BS EN 81-72:2015, 5.4.3 describes other means of rescue.</i>			
2.4 Self-rescue from inside the lift car (see BS EN 81-72:2015, 5.4.4)			
a)	Confirm that the emergency trap door can be fully opened from inside the car and that either a ladder or stepping points are positioned on the shorter side of the trap door.	Yes	<input type="checkbox"/>
b)	Where stepping points are provided, confirm that the maximum step rise to reach the trap door is 0,4 m and the distance from each stepping point to a vertical wall is ≥0,15 m, and that each step point is capable of supporting a load of 1500 N.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
c)	Where a ladder is provided for ascending onto the car roof, confirm that it can be deployed from inside the car, in accordance with BS EN 81-72:2015, 5.4.2.	N/A	<input type="checkbox"/> Yes <input type="checkbox"/>
d)	Confirm that a ladder conforming to BS EN 81-72:2015, 5.4.2 is provided to allow ascending from the car roof to the next landing above.	Yes	<input type="checkbox"/>
e)	Confirm that a diagram or symbol at each landing indicates how the landing door can be unlocked, in accordance with BS EN 81-72:2015, 5.4.5.	Yes	<input type="checkbox"/>
f)	Confirm that for each position where the lift can be stopped throughout the full travel of the lift, the rescue procedures defined in BS EN 81-72:2015, 5.4.3 and 5.4.4 are possible.	Yes	<input type="checkbox"/>

Table 3 – Result of examination and test – Firefighters lifts – Environment/building requirements

3.1 Lobby	
a) Confirm that each landing entrance used for firefighting operations has a fire-protected lobby in accordance with BS EN 81-72:2015, 5.1.1.	Yes <input type="checkbox"/>
b) Confirm that every other landing entrance is protected by a lobby, fire shutter or a fire door in accordance with BS EN 81-72:2015, 5.1.1 and 5.1.4.	Yes <input type="checkbox"/>
<i>NOTE See also BS 9999.</i>	
3.2 Power supplies	
a) Confirm that the lift is provided with a secondary power supply in accordance with BS EN 81-72:2015, 5.1.5.	Yes <input type="checkbox"/>
b) Confirm that the primary and secondary power supply cables are fire-protected in accordance with BS EN 81-72:2015, 5.1.6.	Yes <input type="checkbox"/>
c) Confirm that the source of the secondary power supply and automatic switch gear is located in a fire-protected area, in accordance with BS EN 81-72:2015, 5.1.7.	Yes <input type="checkbox"/>
d) Confirm that primary and secondary supplies are fire-protected to the same level as the lift well equipment, in accordance with BS EN 81-72:2015, 5.9.1.	Yes <input type="checkbox"/>
e) Confirm that secondary supplies are adequate to run the lift at rated speed and the car and lift well lighting for a period equal to the fire-resistance of the structure, in accordance with BS EN 81-72:2015, 5.9.2.	Yes <input type="checkbox"/>
f) Confirm that, in the case of an air pressurized lift well, noise levels from the pressurization system are less than 30 dB(A) measured at positions 0,5 m from the microphones in the car, FSAL and at the emergency and test panel, in accordance with BS EN 81-72:2015, 5.1.8.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
g) Confirm that, in the case of an air pressurized lift well, the pressurization system does not affect the opening and closing of the car and landing doors, in accordance with BS EN 81-72:2015, 5.1.8.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
3.3 Lift machine	
a) Confirm that any compartment containing lift equipment has equivalent fire protection to the lift well, in accordance with BS EN 81-72:2015, 5.7.1.	Yes <input type="checkbox"/>
b) Confirm that any machinery space located outside the lift well and outside a fire compartment is protected with at least the same fire resistance as the fire compartment(s), in accordance with BS EN 81-72:2015, 5.7.2.	Yes <input type="checkbox"/>
c) Confirm that any connection of cables and hydraulic pipes between fire compartments has equivalent protection to the fire compartments, in accordance with BS EN 81-72:2015, 5.5 and 5.7.2.	Yes <input type="checkbox"/>
d) Confirm that the locations of the lift main switch, emergency and testing panel or machine room are indicated on a label at the fire service access level, in accordance with BS EN 81-72:2015, 5.7.2.	Yes <input type="checkbox"/>
<i>NOTE This is a recommendation and not a normative requirement so the lift can conform to BS EN 81-72:2015 without this item.</i>	

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

4.1 Control system	
a) Confirm that the firefighters lift switch is within 2,0 m of the landing entrance, between 1,4 m and 2,0 m above landing level, and is identified by suitable pictogram in accordance with BS EN 81-72:2015, 5.8.1.	Yes <input type="checkbox"/>
b) Confirm that operation of the switch is by an emergency unlocking triangle (or other key where a firefighters lift car key switch is used) and that the switch position marked "1" for fire-fighting operations and "0" for normal operation, in accordance with BS EN 81-72:2015, 5.8.2.	Yes <input type="checkbox"/>
c) Confirm that an external signal, if provided, allows the firefighters lift to return to the fire service access level and stay with doors open, and that operation of the firefighters lift switch to the "1" position is required to complete phase 1, in accordance with BS EN 81-72:2015, 5.8.2.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
d) Confirm that when the firefighters switch is operated, all lift safety devices remain operational, with the exception of heat and smoke sensitive door reversal devices which may be deactivated in accordance with BS EN 81-72:2015, 5.8.3, 5.8.7h) and 5.8.8f).	Yes <input type="checkbox"/>
e) Confirm that the firefighters lift switch does not override any electric safety device (e.g. stop switch), inspection control or emergency electrical operation, in accordance with BS EN 81-72:2015, 5.8.4.	Yes <input type="checkbox"/>
f) Confirm that malfunction of the landing call control or other parts of the lift control system located outside of the lift well and machinery spaces does not cause malfunction of the firefighters lift, in accordance with BS EN 81-72:2015, 5.8.5.	Yes <input type="checkbox"/>
<i>NOTE This includes faults in common group control systems between lifts.</i>	
g) Confirm that no electrical fault on any other lift located in the same group as the firefighters lift affects the operation of the firefighters lift, in accordance with BS EN 81-72:2015, 5.8.5.	Yes <input type="checkbox"/>
h) Confirm that the interruption of an interface connection between the firefighters lift switch and the lift control system initiates phase 1 whilst the lift is in normal operation, in accordance with BS EN 81-72:2015, 5.8.6.	Yes <input type="checkbox"/>
i) Confirm that the interruption of an interface connection between the firefighters lift switch and the lift control system does not change the mode of operation when the lift is in fire service mode, in accordance with BS EN 81-72:2015, 5.8.6.	Yes <input type="checkbox"/>
j) Confirm that the interruption of an interface connection between the car key switch and the control system changes the operation equal to the car key switch in position "1", in accordance with BS EN 81-72:2015, 5.8.6.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

4.2 Phase 1: Priority recall	
Confirm that the following conditions are all met in the event of either the operation of the firefighters switch or an external input recalling the lift automatically.	
a) The lift well and machinery spaces are automatically illuminated upon initiation of the firefighters lift switch, in accordance with BS EN 81-72:2015, 5.8.7a).	Yes <input type="checkbox"/>
b) All landing and car call buttons are inoperative and existing calls are cancelled in accordance with BS EN 81-72:2015, 5.8.7b).	Yes <input type="checkbox"/>
c) Door open and emergency alarm buttons remain operative in accordance with BS EN 81-72:2015, 5.8.7c).	Yes <input type="checkbox"/>
d) The lift functions independently of all other lifts in a group in accordance with BS EN 81-72:2015, 5.8.7d).	Yes <input type="checkbox"/>
e) The communication device described in BS EN 81-72:2015, 5.12 is made operational in accordance with BS EN 81-72:2015, 5.8.7e).	Yes <input type="checkbox"/>
f) The pictogram in the car operating panel is activated and remains activated until the lift is restored to normal operation, in accordance with BS EN 81-72:2015, 5.8.7f) and Figure G, 1.	Yes <input type="checkbox"/>
g) If the lift is on inspection control, emergency electrical operation or any maintenance control, an audible signal sounds until the firefighters lift is removed from inspection operation, emergency electrical operation or any maintenance control then the firefighters lift continues with phase 1 operation, in accordance with BS EN 81-72:2015, 5.8.7g).	Yes <input type="checkbox"/>
h) If the firefighters lift is parked at a landing, an audible signal sounds in the car until the doors are closed, the lift then travels non-stop to the fire service access level, in accordance with BS EN 81-72:2015, 5.8.7h)1).	Yes <input type="checkbox"/>
i) If the lift is parked at a landing, at the latest when the door dwell time exceeds 15 s, all heat and smoke sensitive door protection devices are made inactive and the doors attempt to close under reduced power, in accordance with BS EN 81-72:2015, 5.8.7h)1).	Yes <input type="checkbox"/>
j) If the lift is travelling away from the fire service access level, it stops at the nearest possible floor, the doors remain closed, then it returns to the fire service access floor, in accordance with BS EN 81-72:2015, 5.8.7h)2).	Yes <input type="checkbox"/>
k) If the lift is travelling towards the fire service access level, it continues its travel non-stop to the fire service access level in accordance with BS EN 81-72:2015, 5.8.7h)3).	Yes <input type="checkbox"/>
<i>NOTE If the lift has already started stopping at a level, it makes a normal stop without opening doors and continues to fire service access level.</i>	
l) Once the lift has arrived at the fire service access level, it parks there with the car and landing doors open, in accordance with BS EN 81-72:2015, 5.8.7i).	Yes <input type="checkbox"/>

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

4.3 Phase 2: Use of lift under firefighters control	
Operate the car control devices and confirm that the following conditions are all met.	
a) Where Phase 1 has been initiated by an external signal, the lift does not operate until the firefighters lift switch has been operated, in accordance with BS EN 81-72:2015, 5.8.8a).	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
b) Only one car call can be selected simultaneously, in accordance with BS EN 81-72:2015, 5.8.8b).	Yes <input type="checkbox"/>
c) It is possible to register another call in the car at any time which cancels the previous call and the car travels to the new registered floor, in accordance with BS EN 81-72:2015, 5.8.8c).	Yes <input type="checkbox"/>
d) Constant pressure on a car call button or on the door close button closes the doors. If the button is released before the door is fully closed, the doors automatically reopen. When the door is fully closed, the car call can be registered and the car travels to the destination landing, in accordance with BS EN 81-72:2015, 5.8.8d).	Yes <input type="checkbox"/>
e) When the car is stationary at a landing, constant pressure on the door open button causes the doors to open, and release of pressure before the doors are within 50 mm of fully open causes the doors to re-close, in accordance with BS EN 81-72:2015, 5.8.8e).	Yes <input type="checkbox"/>
f) Car door reversal devices and door open buttons remain operative except those that could be affected by heat or smoke, in accordance with BS EN 81-72:2015, 5.8.8f).	Yes <input type="checkbox"/>
g) If the firefighters lift service switch is operated from "1" to "0" for more than 5 s then returned to "1", the lift returns to the fire access level in accordance with BS EN 81-72:2015, 5.8.8g).	Yes <input type="checkbox"/>
h) Where an additional firefighters car key switch is fitted, it is marked "1" and "0", has a pictogram and the key is removable in the "0" position only. If the fire service access level switch is set for firefighters control, the car key switch is set to "1" to initiate phase 2. If the car is at a floor and not at the fire service access level and the car key switch is set in the "0" position, movement of the car is prevented and the doors operate as in e) above, in accordance with BS EN 81-72:2015, 5.8.8h).	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
i) Any registered car call is displayed visually on the car control panel in accordance with BS EN 81-72:2015, 5.8.8i).	Yes <input type="checkbox"/>
j) The position of the car is visually displayed at fire service access level and in the car, under both normal and emergency power supply conditions, in accordance with BS EN 81-72:2015, 5.8.8j).	Yes <input type="checkbox"/>
k) The lift will not move until a call is registered in the car, in accordance with BS EN 81-72:2015, 5.8.8k).	Yes <input type="checkbox"/>
l) Fire service communication remains operative during Phase 2, in accordance with BS EN 81-72:2015, 5.8.8l).	Yes <input type="checkbox"/>
m) When the firefighters switches are returned to the "0" position, the firefighters lift control system reverts to normal operation only when the lift has been returned to the fire service access level, in accordance with BS EN 81-72:2015, 5.8.8m).	Yes <input type="checkbox"/>

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

4.4 Dual entry car – all fire-protected lobbies on the same side as the fire service access level	
a) When the protected fire lobbies are all the same side as the fire service access level, confirm that the following conditions are all met in the case of one car operating panel, in accordance with BS EN 81-72:2015, 5.8.9.1a).	N/A <input type="checkbox"/>
1) The car control panel has two door open buttons (one for each door), easily identifiable as to which side they are associated with.	Yes <input type="checkbox"/>
2) In phase 2, the door open button for the fire service access level side is illuminated and made active, the other door open button is inactive, and those doors do not open.	Yes <input type="checkbox"/>
b) When the protected fire lobbies are all the same side as the fire service access level, confirm that the following conditions are all met in the case of more than one car operating panel, in accordance with BS EN 81-72:2015, 5.8.9.1b).	N/A <input type="checkbox"/>
1) The control panel at the side of the lift car which opens on to the protected lobby is marked with the pictogram for firefighters use in accordance with BS EN 81-72:2015, 5.8.9.1b) and Annex G).	Yes <input type="checkbox"/>
2) In phase 2, the other car control panel is inoperative.	Yes <input type="checkbox"/>
3) If the car control panel includes more than one door open button, the door open button corresponding to the fire service access level is illuminated in phase 2 and the other door open button made inoperative.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
4) Doors that are not the same side as the fire service access level do not open.	Yes <input type="checkbox"/>
4.5 Dual entry car – all fire-protected lobbies not on the same side as the fire service access level	
a) When the fire-protected lobbies are not all the same side as the fire service access level, confirm that the following conditions are all met in the case of one car control panel, in accordance with BS EN 81-72:2015, 5.8.9.2b).	N/A <input type="checkbox"/>
1) The car control panel has two door open buttons (one for each door), easily identifiable as to which side they are associated with.	Yes <input type="checkbox"/>
2) In phase 2, when the lift is standing at a floor level or the lift is in motion with a car call registered, the available side(s) of the safe area at the destination landing is indicated by illuminating the corresponding door open button(s), and other door open buttons are inoperative.	Yes <input type="checkbox"/>

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

b) When the fire-protected lobbies are not all the same side as the fire service access level, confirm that the following conditions are all met in the case of more than one car control panel, in accordance with BS EN 81-72:2015, 5.8.9.2c).	N/A <input type="checkbox"/>
1) Only one control panel is marked with the pictogram for firefighters use, the control panel serves all the intended floors and has two door open buttons, in accordance with BS EN 81-72:2015, 5.8.9.2c)1) and Annex G.	Yes <input type="checkbox"/>
2) In phase 2, when the lift is standing at a floor level or the lift is in motion with a car call registered, the door open button is illuminated corresponding to the available safe area side(s) on the destination landing, and other door open buttons are inoperative.	Yes <input type="checkbox"/>
3) In phase 2, the other car control panel is inoperative.	Yes <input type="checkbox"/>
4.6 Power supplies	
a) Confirm that when the power supply is re-established, the lift is available for service within 1 min in accordance with BS EN 81-72:2015, 5.10.	Yes <input type="checkbox"/>
b) Confirm that when the power supply is re-established, if the lift needs to move to establish its position, it moves no more than one floor and towards the fire service access level, in accordance with BS EN 81-72:2015, 5.10.	Yes <input type="checkbox"/>
4.7 Car and landing controls	
a) Confirm that the fire service access level has a car position indicator in accordance with BS EN 81-72:2015, 5.11.1.	Yes <input type="checkbox"/>
b) Confirm that the car controls, position indicator inside the car, position indicator at the fire service access level and the firefighters lift switch are protected to at least BS EN 60529, IPX3 in accordance with BS EN 81-72:2015, 5.11.2.	Yes <input type="checkbox"/>
c) Confirm that the landing controls and landing indicators on other levels than the fire service access level are either protected to at least BS EN 60529, IPX3, or are electrically disconnected on operation of the firefighters lift switch, in accordance with BS EN 81-72:2015, 5.11.2.	Yes <input type="checkbox"/>
d) Confirm that on phase 2 control, operation of the firefighters lift is by a full set of push buttons or keypad in the car (keypad size as BS EN 81-70), that there is visible feedback to show that a call has been accepted, and that other operating systems are inoperative, in accordance with BS EN 81-72:2015, 5.11.3.	Yes <input type="checkbox"/>
f) Confirm that the car button for the fire service access level is suitably marked with a pictogram located either on or adjacent to the button, in accordance with BS EN 81-72:2015, 5.11.4 and Annex G.	Yes <input type="checkbox"/>

Table 4 – Result of examination and test – Firefighters lifts – Control and communication systems

4.8 Fire service communication system	
a) Confirm that the firefighters lift has an intercom system or similar device for interactive two-way speech communication whilst the lift is in phases 1 and 2, between the firefighters lift car and the following points; and that the following conditions are all met, in accordance with BS EN 81-72:2015, 5.12.1.	Yes <input type="checkbox"/>
1) The fire service access level where communication between the car and fire service access level is permanently active during phases 1 and 2 without pressing a control button.	
2) The firefighters lift machine room, or in the case of machine-room-less lifts, at the emergency and test panel where the microphone is active only when a control button is pressed on the intercom unit.	
3) Other location for communication as determined from negotiation where the microphone is active only when a control button is pressed on the intercom unit.	
b) Confirm that the communication system within the car and at the fire service access level is a built-in microphone and speaker and not a telephone handset, in accordance with BS EN 81-72:2015, 5.12.2.	Yes <input type="checkbox"/>
c) Confirm that the wiring for the communication system is within the lift well, in accordance with BS EN 81-72:2015, 5.12.3.	Yes <input type="checkbox"/>
4.9 Vandal-prone areas	
a) Confirm that, where the lift is installed in a vandal-prone area/building, the requirements of BS EN 81-71 have been applied until firefighters mode is activated, in accordance with BS EN 81-72:2015, 5.13.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
b) Confirm that, where the lift is installed in a vandal-prone area/building, alarm filtering as BS EN 81-28 is disabled, in accordance with BS EN 81-72:2015, 5.13.	N/A <input type="checkbox"/> Yes <input type="checkbox"/>
<small>NOTE This is a recommendation and not a normative requirement so the lift can be in conformity to BS EN 81-72:2015 without this item.</small>	
4.9 Instructions	
Confirm that the instruction manual gives the necessary information about the firefighters lift in accordance with BS EN 81-72:2015, Clause 7.	Yes <input type="checkbox"/>

Bibliography

Standards publications

For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 7255, *Code of practice for safe working on lifts*

BS 7671, *Requirements for Electrical Installations – IET Wiring Regulations*

BS 8486-1, *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 1: Electric lifts*

BS 8486-2, *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 2: Hydraulic lifts*

BS 8486-3, *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 3: Passenger and goods passenger lifts conforming to BS EN 81-20*

BS 8486-4 (not yet published), *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 4: Passenger and goods passenger lifts in existing buildings conforming to BS EN 81-21*

BS 8486-5 (not yet published), *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 5: Lift alarm systems conforming to BS EN 81-26*

BS 8486-6 (not yet published), *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 6: Lift features for accessibility conforming to BS EN 81-70*

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BS 8486-10 (not yet published), *Examination and test of new lifts before putting into service – Specification for means of determining compliance with BS EN 81 – Part 10: Lift features for evacuation conforming to BS EN 81-76*

BS 8899, *Improvement of fire-fighting and evacuation provisions in existing lifts – Code of practice*

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BS EN 60529, *Degrees of protection provided by enclosures (IP code)*

BS ISO 4190-1, *Lift (Elevator) installation – Part 1: Class I, II, III and VI lifts*

Other publications

[1] GREAT BRITAIN. Lifts Regulations 2016. London: The Stationery Office.