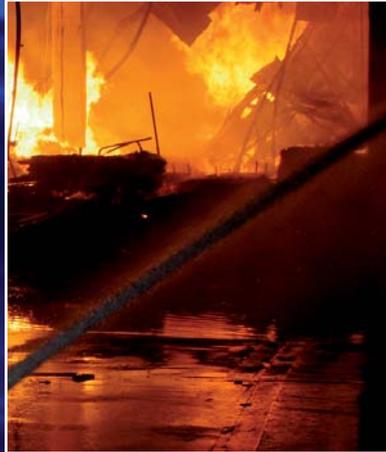


Industry in focus 2008



LIFT AND ESCALATOR
INDUSTRY ASSOCIATION

In recent years there has been an unprecedented concern about environmental matters, both globally and nationally. Governments, pressure groups, industry and the rest of civil society increasingly realise that unless urgent and far reaching action is taken, then it will not be possible to secure a sustainable outcome for future generations – ‘our children’s future!’

As the issues continue to grow in severity, the repercussions are predicted to affect everyone. Exploding global population levels, climate change, waste problems, resource depletion, development, pollution etc and the fact that we depend on politically unstable countries for rapidly depleting fossil fuel reserves such as gas and oil only seem to exacerbate the problem.

To think that the status quo and the business as usual model of progress will continue indefinitely into the future is to be greatly mistaken. In an attempt to halt the onward march to an unsustainable future, the European Union and the UK government have started to apply the emergency brakes. There is now an obligation to reduce CO₂ emissions by 60 per cent by 2050 (Climate Change Bill), buildings and certain electrical products need to be improved and assessed in terms of their energy performance (1) and it is now EU policy to continue to introduce new Regulations and Directives to address a wide range of environmental issues and broaden existing measures. Since 1990, environmental legislation in the UK has grown rapidly and many organisations are finding it increasingly difficult to manage such changes.

A frequent argument used to be that measures to improve environmental performance are too expensive. However as the costs of energy and of waste disposal continue to rise, this argument is starting to lose its validity. Financial incentives such as the climate change levy and the landfill tax etc are predicted to be the start of a much wider range of environmental taxes and financial incentives in order to change the rules of the game. This position is supported by Jonathon Porritt, UK Government Advisor on sustainability and chairman of the Sustainable Development Commission.

For companies working in the lift and escalator industry, an issue of much concern is the

management of waste, such as the ‘duty of care’ requirements and the impact of legislation relating to hazardous waste, electrical and electronic waste and packaging etc. (2). Response to these



Glacial melting in Alaska, USA

requirements will normally involve conducting a waste management / strategy review of the waste streams, identifying applicable legal requirements and working through the waste hierarchy process e.g. 1) eliminate 2) reduce 3) reuse 4) recycle 5) recover and 6) responsibly dispose.

For organisations wishing to improve their entire environmental performance, an initial status environmental review is a good starting point. This will provide a road map for improvement and is especially useful for organisations wishing to implement a recognised environmental management system such as ISO 14001:2004.

We live in interesting times and as Albert Einstein once said “In the middle of difficulty lies opportunity”. This opportunity is the great challenge of our time by finding sustainable ways of living and working. Individuals, governments and all sectors of industry must now play their part.

On a positive note, those organisations that are seizing the opportunities by setting out to improve their environmental performance, are already reaping the benefits, including enhanced reputation, reducing wastage and inefficiency costs, achieving full legal compliance and attracting customers who share similar values.

Richard Wiltshire
Consultant, Sygol Limited
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1. Energy use legislation

- COM2002/91/EC: Directive on the Energy Performance of Buildings
- EU Energy labelling Directive 1992 (92/75/EEC)
- EU Eco-design of Energy Using Products Directive (2005/32/EC)
- EU Energy Efficiency Action Plan

2. Waste management legislation

- Environmental Protection Act – Part II
- Controlled Waste (Registration of Carriers & Seizure of Vehicles) Regulations 1991
- Environmental Protection (Duty of Care) Regulations 1991
- Hazardous Waste (England and Wales) Regulations 2005
- List of Wastes (England) Regulations 2005
- The Waste Electrical and Electronic Equipment Regulations 2006
- Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) Regulations 2006
- Producer Responsibility Obligations (Packaging Waste) Regulations 2007
- Packaging (Essential Requirements) Regulations 2005

Photographs published by kind permission of the London Fire Brigade www.lfbphotos.com

One in ten calls attended by the London Fire Brigade (LFB) during the past seven years were to release people shut in lifts, the vast majority of these being in purpose built flats. This is the second biggest incident type attended by the LFB, second only to false alarms caused by automatic fire detection apparatus.

The statistics used in the LFB report *Releasing people shut in lifts* were gathered taken from the Incident Recording Information System (IRIS) of the LFB between 1999 and 2006. The survey provides useful data, including clear patterns of repeat incidents and contributory factors.

In addition to identifying that 75% of the calls were to release people stuck in lifts in purpose built flats, the survey also revealed that extremes of temperature may be another factor. During the warm summer months the number emergency callouts for lift malfunction rises significantly and as the authors of the report state, "It follows that during prolonged periods of hot weather, we may be called to the same building several times."

In residential buildings, most incidents occur on Friday and Saturdays, with fewest on Sundays. In non-residential buildings, demand peaks on Thursdays with far fewer incidents occurring at weekends relative to weekdays.

To help address the problem, the LFB is in discussion with LEIA to identify ways in which the Association and its members might help to reduce this load on the emergency services.

The LFB is concerned that although the overall number of lift incidents has

fallen slightly during the last seven years, the decline is only evident in residential premises. The number of incidents in non-residential properties such as hotels and offices has increased by more than 46 per cent. Moreover, in some 12 per cent of cases no service was required because an authorised person such as a caretaker or engineer had already freed persons shut in the lift car. On other occasions, the LFB has not been able to get access to the lift or there were no people inside the lift car.

The LFB points out that it is the legal responsibility of a person in control of the lift to make arrangements for the safe release of anyone shut in it. This should not include calling the LFB as the routine method of releasing people. The LFB is not legally required to attend these incidents but if necessary does so to reduce the distress caused to the occupant of the lift. The LFB in fact has the power to charge a fee in such cases and may soon start doing so with high-call premises.

In the few occasions where a person suffers real distress then the LFB can provide an emergency rescue. However they should not be relied upon to provide a routine release service. A crucial factor is the speed of response to the initial call from the occupants. A

reasonable response time will depend on the vulnerability of the occupant. It is up to the person responsible for the lift to determine a reasonable time and provide an appropriate response.



The ideal solution is to prevent the situation arising in the first place with a suitable maintenance programme. The LFB urges lift owners who have not made their own arrangements for releasing people to do so without delay. They can train their existing staff, or use a suitable specialist. It should be noted that, since the LFB will always switch off the power to a lift, someone will always have to attend to reinstate it.

In addition to working constructively with the lift industry and individual owners and managers, the LFB is considering other measures to reduce the drain on resources, including publicising names of owners or landlords whose buildings generate repeat call-outs. In addition, the LFB has decided that, "Where appropriate, we will seek to start charging the owners or landlords for our attendance when called out repeatedly to the same building complex or estate to release people shut in lifts."

Lifts that consistently break down should be taken out of service until the fault is properly fixed. Where a lift owner can shown due diligence and has provided a suitable release service themselves then the LFB would consider waiving their fee.



Project bank accounts: reducing cost and improving delivery

The cost of UK construction is substantially increased by poor payment performance. The industry continues to be funded 'bottom-upwards', which is inefficient, and suppliers are at constant risk of insolvencies further along the chain without an effective means of accommodating this risk.

Moreover, poor payment practices are a major barrier to teamworking by removing the trust which is essential to collaborative delivery.

The National Audit Office (the taxpayers' watchdog) has recommended that public sector procurers should consider project bank accounts. This was supported in the 2012 Construction Commitments and recently endorsed by the Public Sector Construction Clients Forum which has published guidance and documentation for operating project bank accounts.

The guidance advises that project bank accounts (together with a new Fair Payment Charter) will produce significant savings for the public sector purse. It recommends that public sector clients progressively introduce project bank accounts as from 2008.

Many private sector clients have now expressed interest in this development particularly since the Treasury has indicated that project bank accounts could save the public sector as much as £750m per annum.

How a project bank account works

- PM** submits payment application to **C** together with breakdown of **SC**'s payments
- C** authorises application
- C** releases funds to bank via BACS



- KEY:**
- C** - Client
 - PM** - Project Manager
 - SC** - Supply Chain

NOTE:
The project bank account is given trust status – if **PM** goes into insolvency the monies due to the **SC** are protected

- C** and **PM** provide bank with details of payments due to **PM** and each **SC** member
- On deposit of funds bank releases all payments simultaneously to each **SC** member

Rider Levett Bucknall, a leading firm of construction consultants, has developed a training package to support client organisations and supply chains intending to use project bank accounts; it has experience of using such accounts. The Bank of Scotland and Barclays Bank have developed specific banking documentation to facilitate the setting up of the account. Contract producing bodies are also developing project bank account provisions for their contracts. The Office of Government Commerce has set up a monitoring process to gauge progress. Therefore, everything is in place to enable client organisations to

set up and use project bank accounts from January 2008.

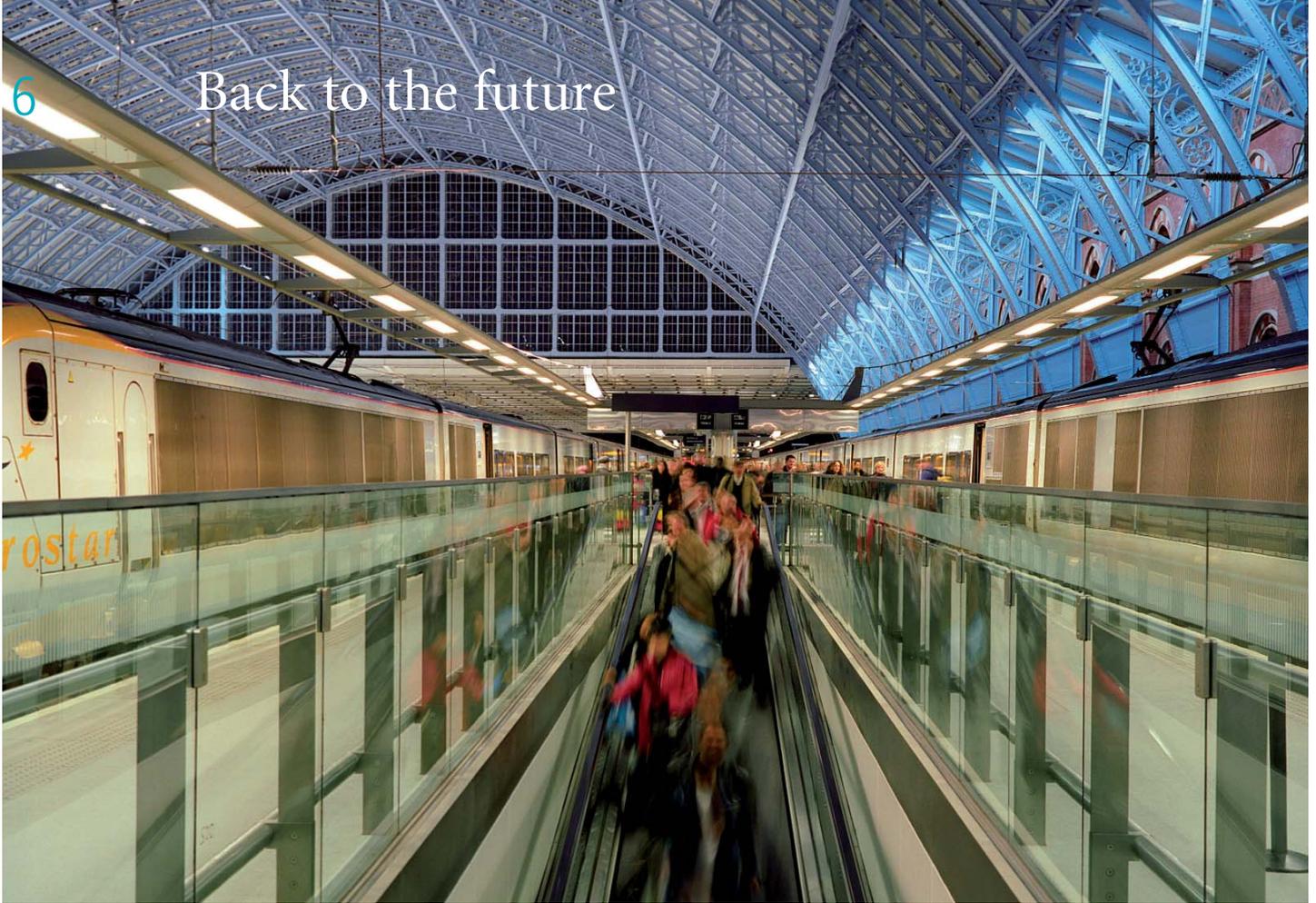
Last year the Specialist Engineering Contractors' Group (of which LEIA is a member) carried out a survey of firms in its member associations to inquire into the extent to which their costs would be reduced by having project bank accounts. The survey results, which were audited by Davis Langdon, revealed that 65 per cent of respondents thought that their costs would be reduced; the majority of respondents believed their costs would reduce by up to 5 per cent. A significant number stated that their costs would be reduced by up to 10 per cent.

Professor Rudi Klein
Chief Executive
Specialist Engineering
Contractors' Group

For further information please go to the SEC Group website: secgroup.org.uk or email contact@secgroup.org.uk or contact Brian Kilgallon at Rider Levett Bucknall brian.kilgallon@uk.rlb.com



Pictures courtesy Stannah Lifts



One of the most exciting construction projects to catch the public imagination last year was the completion of the new St Pancras Railway Station. Rescued from demolition in the 1960s, the once glorious building, which together with

High Speed 1, the Eurostar train service operated by London & Continental Railways (LCR), St Pancras Station has reclaimed its position as a world class station. The masterplan for the new St Pancras was by Norman Foster, executed by High Speed 1's Alastair Lansley, and combines the best of the original station design by engineer WH Barlow with the latest innovation and technologies.

A major challenge was to carry out the restoration of the station and the provision of track for High Speed 1 at the same time as maintaining the existing Midland Main Line (MML) services into St Pancras and connections with Kings Cross Station next door. The engineers for the scheme, Arup, were concerned to ensure that not only was there appropriate provision for rolling stock movement but that passengers were also able to move easily in and around the station particularly when changing trains.

In addressing the challenge, Arup posed a number of questions, "Why give MML one extremely long platform and expect passengers to walk down it to access the others? Why make departing Eurostar passengers use a total of three levels? Why build obtrusive access bridges in the trainshed when there was



so much space underneath? Would it be operationally efficient for Eurostar to have its departure and arrival facilities so far apart? How would daylight reach the arrivals area below the platforms? Where, indeed, was the heart of the station?"

The answers helped to resolve the challenge of how to integrate the two levels of the station and hugely enhanced the attractiveness of the street-level space by letting daylight reach it. Fortunately Barlow was far-sighted enough to realize that platform layouts would change over the lifetime of his station, and so he designed the ceiling level of the

Towering above St Pancras Station is the former Midland Grand Hotel, built in 1873 and designed by Sir George Gilbert Scott in the gothic revival style. The first hotel in London to have lifts, which were then called 'ascending rooms', the once luxurious building was closed in 1935 because it was considered too outmoded and expensive to run. Now the Midland Grand Hotel is being brought back to life, by a consortium of Manhattan Loft Corporation and Marriott Hotels.



the adjacent Midland Grand Hotel marked the high point of Victorian engineering and architecture, had become mournful relics of the heyday of railway travel. But on 6 November 2007, Her Majesty the Queen formally marked the extraordinary transformation from relic to 21st century gateway to Europe.

Now the main London terminus for



undercroft as a horizontal deck structure to carry the track beds, with platforms built up off it rather than being part of the structure. Barlow's old floor in the train shed was replaced with a concrete deck, pierced by vast rectangles so passenger conveyors can bring passengers up from the old beer cellars to the platforms, and creating a genuine two-level space where users can see and be aware of both levels and be able to move between levels.

For international departures, all the facilities are now immediately under the trains, with multiple passenger conveyors

up to the platforms. After analysis of the working of Waterloo International terminal, the Arup team opted for passenger conveyors only, rather than escalators as well. Passenger conveyors are much better for passengers with baggage trolleys and child-buggies and through statistical risk analyses presented to HMRI the team managed to establish new standards to use 12° passenger conveyors supplied by Otis for upward travel in a UK station, getting passengers close to the middle of the platforms.

Arriving international passengers are dealt with differently. The natural tendency for passengers leaving a train at a city terminus is to walk forwards towards the buffer-stops. The time passengers take to walk down platforms from the carriages naturally controls the flow through any barriers—in this case the immigration and customs controls. So by having long 6° inclined passenger conveyors only at the ends of the platforms, it should be possible to avoid large queues through passport control in the arrivals hall (where there is space for up to 20 desks). It is stationary queuing, rather than walking alongside the train, that people find really irritating.

Sophisticated computer modelling of pedestrian circulation was used to analyze

the capacity of the public spaces and vertical passenger movement, so as to satisfy the station operators and HMRI of the adequacy and safety of the station layout, and to establish footfall figures for the optimum location of retail facilities.

For international train travel to compete with short-haul flights, the Arup team realised St Pancras had to be planned for circulation efficiency as well as good passenger facilities. At the new St Pancras it is therefore possible to board a train within five minutes of arriving at the international taxi set-down.

The completion of St Pancras Station marks a number of significant milestones. Not only is High Speed 1 the first major new railway in the UK for over 100 years, and the first high speed line ever in the UK, it was completed within time and budget. The service has already set a new record, with the Eurostar train taking just two hours and three minutes to travel from the Gare du Nord station in Paris to St Pancras International. St Pancras is an exceptional blending of traditional splendour, high technology and great style. Sir John Betjeman, the railway loving poet laureate who drove the campaign to preserve the building from demolition forty years ago, would surely be delighted and amazed.

Photos courtesy
London & Continental
Railways/Troika

Pictures courtesy *Elevation* magazine

The year 2007 was one of review and change at LEIA, reflected significantly at Liftex, the industry's major national event that took place in London in May. The decision to open participation to non-members of the Association resulted in a 90 per cent increase in exhibiting companies, many of whom were not only new to Liftex but had never before taken part in an exhibition. The geographic spread was also enhanced, with representation from Germany, Italy, Spain, Switzerland, Sweden and the USA.

Not only was there a major increase in exhibitors, visitor numbers also rose by 10 per cent over the last event - Liftex 04 – with more than 1,000 people travelling to the Excel Centre in London's Docklands for the two day exhibition.

The decision by LEIA to expand participation was supported by active marketing and promotion, as part of the Association's new communication strategy. Just as important as encouraging attendance before the event was finding out opinion and satisfaction levels afterwards. Liftex 07 organisers Bob and Sarah Hudson of Room13Ltd gathered feedback from exhibitors and visitors to provide valuable data for future planning.

The whole point of investing money and time in exhibiting at a trade show such as Liftex must be to generate business and build strong relationships with existing and potential customers and specifiers. Judging by the research, LEIA appears to have succeeded in creating an effective environment for doing just that. More than half the visitors responding to the survey said that they would be making a purchase as a result of their visit. Of these, a substantial percentage anticipated spending more than £50,000 over the coming year.

Food for thought for LEIA was preferred frequency of Liftex, which has varied between every three and every two years since 1987. After appropriate consultation, it has been agreed that the optimum frequency is every three years.

There was consistency between exhibitors and visitors regarding including seminars and workshops at future Liftex events, with around 65 per cent supporting the proposal. There was also convergence on topics for such activities, namely: product launches/demonstrations, trends and developments, education and training, current legislation and health and safety.

The organisers and LEIA executive have analysed and reviewed the information gathered in order to build on the impetus of Liftex 07. A key issue is to balance the needs and expectations of LEIA members wider interests in the industry, at the same time as creating a dynamic environment for visitors from a range of sectors. However with the overwhelming majority of exhibitors saying that they would exhibit at a future event, with an even higher proportion of visitors saying that they would visit again, the indications are that the new improved Liftex is set to stay.



Steplift, Northumberland House, London, courtesy Pollack Lifts



Every year there are approximately 3,500 deaths and 280,000 casualties on UK roads and it is estimated that about one third of all road traffic accidents involve someone travelling during the course of their work. If we compare fatalities on the roads with those in the workplace, which average 231 each year, the seriousness of the issue can be seen. The lift industry operates many hundreds of vehicles in the UK, which means there is a significant risk of injury to employees and members of the public from road accidents. Management of company vehicles and the risks should therefore be undertaken in the same way as for health and safety at work.

Road traffic accidents are not reportable under the Reporting of Injuries Diseases and Dangerous Occurrence Regulations (RIDDOR) but are investigated under the Road Traffic Act by Police. An organisation's approach to the risks may require a culture change to ensure that road safety receives the same attention as risk assessments required for working practices. Vehicles should not only be road worthy, but also of a type appropriate for the job. Of course all vehicles must meet the legal



requirements for Road Tax, MOT and be properly maintained.

It is equally important that the people responsible for driving company vehicles are appropriately managed. This may include assessing their liability, identifying their previous experience, training and assessing their health. It is anomalous that an eye test for computer users is very much accepted but it is not a mandatory requirement when driving a car!

Other issues to address include proper consideration of the distances and time of day that drivers travel and policies regarding weather conditions. Consideration should also be taken for those that drive long distances where fatigue is a hazard. Young or newly qualified drivers present a high risk, together with new recruits to a company who are not familiar with the company vehicle for which they are responsible.

It is particularly important to ensure that the individual has a valid licence appropriate for the vehicle they are driving. A person whose job requires them to drive may try to prevent their employer finding out that they have lost their licence. However, procedures can be set up to check the driving licence annually in-house or companies can go direct to the Driver and Vehicle Licensing Agency and make an enquiry to

establish the validity of a person's driving licence. An employer needs to obtain permission from the individual to conduct checks and request information from the DVLA. This would require details of the individual, their driver number, current address and address on the licence. Any valid endorsements, qualifications etc. will be shown on the DVLA printout. There would also be an agreement about the Data Protection Act.

There is a growing trend for employees preferring to receive a cash allowance in lieu of a company car. For such employees the company has the same duty of care to that employee as an employee with a company car.

Further information is available in an HSE document "Driving at Work" INDG382 which can be downloaded from the HSE website at www.hse.gov.uk.

What are the risks?

The following examples give an indication of the risks for drivers and vehicles that companies should identify and manage:

- Driver drives at excessive speeds
- Driver is not competent to drive vehicle
- Driver has undetected defective eyesight
- Driver suffers from poor health including stress leading to poor decision making/reaction
- Driver is taking medication that impairs judgement
- Driver under the influence of drugs or alcohol
- Driver driving in adverse weather conditions
- Driver works/drives excessive hours/excessive distances
- Driver has a tendency to road rage
- Employee working at height on vehicle
- Driver loses licence but fails to report loss.

Companies are therefore advised that they should treat cash takers as they would any other business driver within their company, putting in policy controls to ensure that they have agreed on the maintenance of their vehicle to keep it in a safe condition and also checking their driving licences for endorsements or bans. Such an employee should also be required to give a signed undertaking that they will operate the vehicle in accordance with the company's requirements.



Current status of European standards as they relate to lifts

As the number of lift related standards increases, the status of each becomes confusing. The following list shows the current status of the more important European standards:

Publications that have been referenced in the Official Journal of the European Union (OJ)

REFERENCE AND TITLE OF STANDARD	DATE OF PUB IN THE OJ (*)	SUPERSEDED STANDARD
EN 81-1: 1998 (see Note 1) Safety rules for the construction and installation of lifts – Part 1: Electric lifts	31.03.1999	BS 5655: Part 1: 1986
EN 81-1/A1: 2005: Programmable electronic systems in safety related applications for lifts	02/08/2006	
EN 81-1/A2: 2004: Machinery and pulley spaces	02/08/2006	
EN 81-2: 1998 (see Note 2) Safety rules for the construction and installation of lifts – Part 2: Hydraulic lifts	31.03.1999	BS 5655: Part 2: 1988
EN 81-2/A1: 2005 Programmable electronic systems in safety related applications for lifts	02/08/2006	
EN 81-2/A2: 2004 Machinery and pulley spaces	02/08/2006	-
EN 81-3: 2000 (see Note 3) Safety rules for the construction and installation of lifts – Part 3: Electric and hydraulic service lifts	13.10.2000	BS 5655: Part 3: 1989
EN 81-28: 2003 (see Note 4) Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 28: Remote alarm on passenger and goods passenger lifts	10.02.2004	-
EN 81-58: 2003 (see Note 5) Safety rules for the construction and installation of lifts – Examination and tests – Part 58: Landing doors fire resistance test	10.02.2004	-
EN 81-70: 2003 (see Note 6) Safety rules for the construction and installation of lifts – Particular applications for passenger and goods passenger lifts- Part 70: Accessibility to lifts for persons including persons with disability	06.08.2005	-
EN 81-70: 2003/A1: 2004	06.08.2005	-
EN 81-72: 2003 (see Note 7) Safety rules for the construction and installation of lifts – Particular applications for passenger and goods passenger lifts – Part 72: Firefighters lifts	10.02.2004	BS 5588: Part 5: 1991 (Requirements have been removed from BS 5588: Part 5: 2004 edition)
EN 81-73: 2005 Safety rules for the construction and installation of lifts: Behaviour of lifts in the event of fire	02/08/2006	
EN 115/A2: 2004 (see Note 8) Safety rules for the construction and installation of escalators and passenger conveyors	31.12/2005	BS 5656: Part 1: 1997
EN 12015: 2004 Electromagnetic compatibility – Product family standard for lifts, escalators and passenger conveyors - Emission	EMC Directive 05.19.2005	
EN 12016: 2004 Electromagnetic compatibility – Product family standard for lifts, escalators and passenger conveyors - Immunity	Lift s Directive 06.08.2005 EMC Directive 05.10.2005 Machinery Directive 31.12.05	
EN 12158-1: 2000 (see Note 9) Builders hoists for the transport of goods – Part 1: Hoists with accessible platforms	14.06.2002	
EN 12158-2: 2000 (see Note 10) Builders hoists for transport of goods: Part 2: Inclined hoists with non-accessible load carrying unit	27.11.2001	
EN 12159: 2000 (see Note 11) Building hoists for persons and/or goods	Ratified July 2000	
EN 12385 -5: 2002 Steel wire ropes – Safety – Part 5: Stranded ropes for lifts	06.08.2004	BS 302: Part 4: 1987
EN 13015: 2001 (see Note 12) Maintenance for lifts and escalators – Rules for maintenance instructions	10.02.2004	-

(*) The date of the publication of the Official Journal within which the standard is referenced, is the date from which the use of the standard confers the presumption of conformity to the essential requirements it covers.

NOTES:

- Standard currently under revision
- Standard currently under revision
- Standard currently under revision
- Review due
- Consideration being given to harmonisation under the Machinery Directive
- Amendment necessary due to Machinery Directive Review due
- Review due
- Revised standard will be released for Formal Vote January 2008
- Amendment necessary due to Machinery Directive Review due
- Amendment necessary due to Machinery Directive Review due
- Amendment necessary due to Machinery Directive Review due
- Review due

Standards awaiting ratification:

EN 81-71: 2005
Safety rules for the construction and installation of lifts – Particular applications to passenger lifts and goods passenger lifts – Part 71: Vandal resistant lifts

Drafts being prepared for formal Vote:

prEN 81-21
Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 21: New passenger and goods lifts in existing buildings (As this draft has undergone two CEN Enquiries the Unique Acceptance Procedure (UAP) will be used).

prEN 81-22
Safety rules for the construction and installation of lifts – Lifts for the transport of persons and goods – Part 22: Electric passenger and goods passenger lifts with inclined travel path

prEN 81-31
Safety rules for the construction and installation of lifts – Lifts for the transport of goods only – Accessible goods only lifts

prEN 81-40
Safety rules for the construction and installation of lifts – Special lifts for the transport of persons and goods – Part 40: Stairlifts and inclined lifting platforms intended for persons with impaired mobility.

prEN 81-41
Safety rules for the construction and installation of lifts – Special lifts for the transport of persons and goods – Part 41: Vertical lifting platforms intended for use by persons with impaired mobility.

prEN 81-43

Safety rules for the construction and installation of lifts – Special lifts for the transport of persons and goods – Part 43: Special purpose lifts for cranes.

Other Published European Standards in the EN 81 series

EN 81-29: 2004
Interpretations related to EN 81-20 up to EN 81-28 (includes EN 81-1: 1998 and EN 81-2: 1998)

EN 81-80: 2003
Rules for the improvement of safety of existing passenger and goods passenger lifts

New Standards under preparation

prCEN/TR81-10
Safety rules for the construction and installation of lifts – Basics – Part 10: System of the EN 81 series of standards

prEN 81-76
Safety rules for the construction and installation of lifts: Particular applications for passenger and goods passenger lifts – Part 76: Use of lifts for the evacuation of disabled persons from a building in the event of emergency.

prEN 81-82
Safety rules for the construction and installation of lifts – Existing lifts – Part 82: Improvement of the accessibility of existing lifts for persons including persons with disability.

