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Code of practice for safe working on lifting platforms

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i to ii, pages 1 to 30, an inside back cover and a back cover.

Foreword

Publishing information

This British Standard is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 28 February 2014. 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.

Information about this document

This is a new British Standard which gives recommendations for safe working on lifting platforms.

The standard is supported by the following annexes:

- Annex A shows some typical safety signs;
- Annex B is concerned with the wellbeing of persons working alone;
- Annex C describes electrical working.

Use of this document

As a code of practice, this British Standard takes the form of guidance and recommendations. It should not be quoted as if it was a specification and particular care should be taken to ensure that claims of compliance are not misleading.

Any user claiming compliance with this British Standard is expected to be able to justify any course of action that deviates from its recommendations.

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.

Presentational conventions

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

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

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.

1 Scope

This British Standard gives recommendations for safe working practices (supported by training) for:

- owners of permanently installed lifting platforms serving defined landing levels;
- persons having effective control of the premises where such lifting platforms are installed;
- persons responsible for, and involved in, the design, installation, thorough examination, inspection, testing, service, maintenance, repair and dismantling of such lifting platforms.

This British Standard gives recommendations for the safety of persons when gaining access to and from the area in which a lifting platform is installed and whilst working there. The recommendations also relate to the safety of others present in the vicinity, whether they are working or not, who could be endangered by the actions of those working on lifting platforms.

NOTE 1 Hazards in work areas might vary, e.g. in occupied/unoccupied buildings, premises being refurbished, construction sites and industrial environments.

This British Standard is applicable to persons working on lifting platforms constructed to conform to BS 5900:2012, BS 6440:2011 and BS EN 81-41:2010.

NOTE 2 Lifting platforms conforming to BS 5900 are powered homelifts with partially enclosed carriers and no liftway enclosures. Lifting platforms conforming to BS 6440 have non-enclosed or partially enclosed liftways and non-enclosed or partially enclosed carriers. Lifting platforms conforming to BS EN 81-41 have enclosed liftways and carriers that are not completely enclosed.

This British Standard is not directly applicable to persons working on other types of lifting platform, but the recommendations may be taken as a useful guide for such lifting platforms.

This British Standard does not cover:

- stair lifts;
- lifts designed under the Lifts Regulations 1997 [1];
- vertical lifting appliances with an enclosed carrier ("slow speed lifts") designed under the Supply of Machinery (Safety) Regulations 2008 [2];

  NOTE 3 There are lifting appliances that feature a fully enclosed carrier constructed under the manufacturer's quality assurance scheme and installed under the manufacturer's installation instructions for which this British Standard might provide guidance.

- paternosters, mine lifts, access lifts to workplaces, theatrical lifts, appliances with automatic caging, skips, lifts and hoists for construction sites, ships' hoists, platforms for exploration or drilling at sea, construction and maintenance appliances.

For lifting platforms that have been designed and installed in accordance with the Supply of Machinery (Safety) Regulations 2008 [2], the recommendations that might affect product design do not apply.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

Standards publications

BS 5900:2012, *Powered homelifts with partially enclosed carriers and no liftway enclosures – Specification*

BS 6440:2011, *Powered vertical lifting platforms having non-enclosed or partially enclosed liftways intended for use by persons with impaired mobility – Specification*

BS 7375, *Distribution of electricity on construction and demolition sites – Code of practice*

BS 7671, *Requirements for electrical installations – IET Wiring Regulations – Seventeenth edition* [1)]

BS EN 81-41:2010, *Safety rules for the construction and installation of lifts – Part 41: Special lifts for the transport of persons and goods – Vertical lifting platforms intended for use by persons with impaired mobility*

BS EN 60204-1:2006+A1:2009, *Safety of machinery – Electrical equipment of machines – Part 1: General requirements*

BS EN ISO 7010, *Graphical symbols – Safety colours and safety signs – Registered safety signs*

BS EN ISO 14798, *Lifts (elevators), escalators and moving walks – Risk assessment and reduction methodology*

Other publications

[N1]INSTITUTION OF ENGINEERING AND TECHNOLOGY. *Inspection and testing*. Guidance Note 3. Stevenage: IET Publications, 2011. ISBN: 978 1 84919 275 0.

3 Terms and definitions

For the purposes of this British Standard the following terms and definitions apply.

3.1 authorized person
person given authority and responsible for ensuring that specific plant and equipment are safe for the intended work to be undertaken

NOTE An authorized person is likely to have undergone the relevant training, and to have sufficient knowledge and experience of the relevant plant, to enable them to recognize potential dangers of the plant. Alternatively, an authorized person might have been instructed on the specific task assigned to them, the avoidance of any potential hazards that are applicable, and the reduction of risks, and if necessary, have been given training relevant to that task.

3.2 carrier
part of a lifting platform that carries users and/or other loads

[1)] This standard also gives an informative reference to BS 7671:2008+A1:2011.

3.3 competent person
person, suitably trained and qualified by knowledge and practical experience, and provided with the necessary instructions, to enable the required work to be carried out safely

3.4 lifting platform
device permanently installed to serve predefined landings comprising a guided platform whose characteristics are primarily intended to permit the access of persons with impaired mobility

3.5 lifting platform contractor
party that is contracted to supply, install, modernize, repair, maintain, service or dismantle a lifting platform

3.6 landing
space at the entrance to a lifting platform at any defined level to permit the manoeuvring, boarding and alighting of persons and/or wheelchairs, etc.

3.7 maintenance
tasks involving inspection, cleaning, lubrication, minor adjustment and small repair works

NOTE Maintenance does not include:

- *cleaning of the external parts of any liftway;*
- *cleaning of heavy contamination of pit area or removal of water due to ingress or flooding;*
- *rescue operations;*
- *thorough examinations, supplementary tests and third party inspections.*

3.8 liftway
space through which a carrier and its load travels

[SOURCE: BS 5900:2012, **3.10**]

3.9 machinery space(s)
space(s) inside or outside the liftway where the machinery, as a whole or in parts, is placed

3.10 owner
legal entity having right of possession of a lifting platform and responsibility for its safe working

NOTE The owner is usually the landlord or proprietor of the building in which a lifting platform is situated. The person having responsibility for the lifting platform on a day-to-day basis is likely to be the building occupier.

3.11 pit
part of a liftway situated below the lowest landing served by a carrier

3.12 risk assessment
comprehensive estimation of the probability and the degree of possible injury or damage to health or property, in order to identify appropriate mitigating measures

3.13 safe system of work
formal procedure, resulting from a risk assessment, which specifies safe methods of work to ensure that relevant hazards to the task being undertaken are eliminated and the remaining risks are minimized

3.14 trapped user
person who is unable to exit the carrier safely by their own actions

NOTE Certain types of lifting platform are equipped with an automatic rescue device or rescue facility which can be initiated by persons on the carrier without outside assistance.

3.15 user
person making use of the services of a lifting platform installation

NOTE A user is not necessarily the same as a passenger.

3.16 workplace
premises or part of premises where work is carried out

4 Safety management: responsibilities of owners

*COMMENTARY ON CLAUSE **4***

*Not every lifting platform is identical, modern or similarly positioned; nor are machinery spaces (if any) of identical size or shape, nor segregated, illuminated or located within similar environments. The range of possible equipment and installations has implications which need to be taken into account with all the subclauses in Clause **4**. In particular, the type of equipment installed has implications for:*

- *ensuring the competence of those working on the particular equipment (**4.2**);*
- *liaison to ensure safe working (**4.3**);*
- *risk assessment, taking into account the particular type of equipment installed, and ensuring that workers have the appropriate details from the health and safety file (**4.4**);*
- *provision of appropriate signage for the equipment installed (**4.5**);*
- *the safe use of the unlocking key (**4.7**);*
- *the method used for the safe release of trapped users, and related instructions (**4.11**).*

*The owners of lifting platforms in domestic premises might not be able to fulfil all of the recommendations in Clause **4**.*

*Recommendations that are applicable to persons responsible for, and involved in, the design, installation, thorough examination, inspection, testing, service, maintenance, repair or dismantling of lifting platforms are given in Clause **5**. Some of the recommendations in Clause **5** might not be applicable to lifting platforms in domestic premises.*

The site person in charge, supported by their organization, is usually expected to be responsible for the safety of persons working on lifting platforms. This does not absolve individuals from acting responsibly in respect of their personal safety, or site owners or other relevant parties from their respective responsibilities under law.

4.1 General

The recommendations given throughout Clause **4** should be applied by owners of lifting platforms and by persons having effective control of the premises in which lifting platforms are installed.

NOTE Attention is drawn to the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 [3] and the Provision and Use of Work Equipment Regulations (PUWER) 1998 [4] for duty holders.

Hazards relating to moving and rotating machinery, electrical equipment, falls from height, etc., which are similar to those experienced in other workplaces, should be identified in a risk assessment in accordance with **4.4**.

4.2 Training and competence

The owner should ensure that all persons who might at any time be working on a lifting platform or related equipment, or be carrying out risk assessments, possess demonstrable competence in basic lifting platform safety and procedures or be under relevant supervision.

NOTE 1 Relevant supervision may be provided by any person who possesses demonstrable competence in basic lifting platform safety and procedures.

*NOTE 2 A suitable level of certified competence is the qualification EOR/206 "Lifting platform safety", although other suitable qualifications exist [see **5.2.2**, Note 1)].*

Clear written instructions relating to site emergency and first aid procedures should be issued by those responsible for the site, namely the owner or principal contractor, to employees, visitors, contractors and other authorized persons. Any specific regulations that apply to the premises should also be included in these instructions. If the instructions are complex and/or specific risks exist, they should be supplemented by a specific "site safety awareness" training regime and safe system(s) of work.

Specific training should be provided to all persons who are authorized to carry out the safe release of trapped users. Such persons should be made aware that this training is limited to safe release activities only on that site and that this does not authorize them to carry out any additional activities. Training should cover not only the release procedure, but also possible complications that might arise during a release, e.g. failure of the procedure to cause movement of the carrier.

*NOTE 3 The full range of competencies contained within EOR/206 might not be required for persons carrying out the safe release of trapped users. Procedures recommended for the safe release of trapped users are given in **4.11** and **5.11**.*

The competency of all trained persons should be assessed and documented annually. Documentation should list the competencies achieved relating to the type of equipment upon which the training was carried out.

Information and instructions should be given to all occupants of the premises who could be affected whenever any works are carried out on lifting platforms, indicating any relevant effects on their working environment or their health and safety.

4.3 Responsibility for work

The owner should ensure that any work carried out on lifting platforms is performed only by competent and authorized persons.

NOTE 1 Attention is drawn to the Workplace (Health, Safety and Welfare) Regulations 1992 [5].

The owner's site representative should liaise with the site person appointed by the lifting platform contractor to be in charge of the works on the lifting platform(s).

It is expected that the owner's site representative will be informed before work is started or any lifting platform(s) taken out of service (see **5.3**). The owner should ensure that a safety sign is displayed where a lifting platform is removed from service to warn others that the lifting platform is out of service (see Annex A, Figure A.1).

The owner's site representative should liaise with the site person in charge of the works on at least the following aspects:

a) familiarization with the relevant parts of any safety assessment undertaken by the contractor;

b) familiarization with the work site from commencement of the work, including the effect the work is likely to have on other persons in the area;

c) directing and managing the work safely;

d) ensuring that the work site is handed back to the owner in a safe condition on completion of the work;

e) understanding the risks that could arise as a result of the work and agreeing the necessary control measures;

f) being able to summon emergency assistance if required;

g) giving advice on any special precautions or procedures required for works being undertaken within the premises;

NOTE 2 Such precautions might become necessary owing to environmental factors, e.g. where children are present in the vicinity.

h) holding a register of asbestos that might be present on the premises, and advising visiting tradespersons of the location, etc., of asbestos so they can plan their work accordingly;

NOTE 3 Attention is drawn to the Control of Asbestos Regulations 2012 [6].

i) in conjunction with the lifting platform contractor, establishing procedures for:

1) the avoidance of build-up of waste materials;

2) the control and safe disposal of waste and other items and substances that are potentially injurious to health and safety;

NOTE 4 Attention is drawn to the Control of Substances Hazardous to Health Regulations 2002 [7] and the Control of Substances Hazardous to Health Regulations (Northern Ireland) 2003 [8]. Examples of potentially hazardous items and substances include hypodermic needles, human waste and radioactive materials.

j) assessing and minimizing the potential disruption to the occupants of the premises arising from the work, e.g. dust, noise, access restrictions, etc.;

k) ensuring that appropriate personal protective equipment [see **5.3**k)] and/or clothing is provided to ensure the health and safety of persons working on lifting platforms who might be exposed to harmful processes or substances encountered within the premises;

l) safe access for persons, tools, equipment and materials to workplaces;

NOTE 5 This includes the provision of access to all workplaces that are free from obstacles, tripping hazards and projections. It also includes the provision of a safe means of access through potentially hazardous areas, e.g. goods loading bays, and the provision of adequate lighting, both inside and outside the liftway, for access to and egress from workplaces.

m) the provision of alternative access routes as might become necessary during the works being undertaken;

n) the provision of suitable and clearly identified storage space (if required) for tools, equipment, materials and any portable access equipment;

o) the wellbeing of persons working alone (see Annex B);

NOTE 6 These procedures are particularly important if a person is working alone in unoccupied premises.

p) precautions to be taken when there is more than one person working (see BS 7255:2012, Annex F);

q) issuing permits to work as part of a safe system of work for all those undertaking tasks within designated workplaces.

4.4 General safety measures and risk assessment

The owner and any person working should undertake, periodically review and revise site-specific risk assessments to establish safety measures that ensure the safety of persons engaged in work, and persons using the premises and lifting platforms. Risk assessments on lifting platforms should be carried out in accordance with BS EN ISO 14798.

NOTE 1 Risk assessments require periodic review because improvements in technology and/or materials could reduce the element of risk beyond that achieved by any existing arrangements, and to reflect changes in environment, usage or age of the equipment.

The risk assessment should ensure that all workplaces (see **3.16**) are safe to accommodate:

a) the work activity being undertaken;

b) all work equipment; and

c) all persons who might be affected by the works.

The safety measures identified by risk assessment should be implemented to reduce risk to an acceptable level as far as is reasonably practicable.

NOTE 2 Attention is drawn to the Management of Health and Safety at Work Regulations 1999, as amended, Regulation 3 (i) [9], the Management of Health and Safety at Work Regulations (Northern Ireland) 2000 [10], the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 [3] and the guidance, where LOLER applies, in HSE publication HSIS4(rev1) [11].

Access to machinery spaces (if any) should be restricted to competent and authorized persons, or persons under the supervision of competent and authorized persons. Any persons who are not trained lifting platform personnel, e.g. cleaners, should not enter or work within a liftway unless:

1) they are under the supervision of trained lifting platform personnel at all times;

2) trained lifting platform personnel have secured the lifting platform against movement in either direction, both electrically and mechanically.

NOTE 3 Securing the lifting platform might typically be by the use of a mechanical blocking device under the carrier. Turning off the power does not always prevent all movement.

Where option 2) is taken, trained lifting platform personnel do not need to remain in attendance unless requested to do so, but should be informed when the work is complete so that the lifting platform can be safely returned to service by the lifting platform contractor.

Lifting platform liftways and associated areas, in general, are not confined spaces within the meaning of the Confined Space Regulations 1997 [12], but there might be exceptions, and in such cases a suitable and sufficient risk assessment should be carried out to determine whether special provisions are required.

Details of any changes to the risks that can be encountered during the progress of the works, or which become apparent from subsequent risk assessments, should be recorded in the health and safety file and made known to the responsible person.

*NOTE 4 The installation, major repair or dismantling of a lifting platform is unlikely to be notifiable under the provisions of the Construction (Design and Management) Regulations 2007 [13] and the Construction (Design and Management) Regulations (Northern Ireland) 2007 [14]. If it is, then the recommendations of BS 7255:2012, **4.9** are applicable. Where these regulations apply, CIBSE Guide D: 2010 [15] provides guidance to CDM Regulations in relation to lift industry practice.*

The health and safety file, including all the documentation provided to the owner described in **5.4**, should be retained by the owner until further work is carried out on the lifting platform installation, when it should then be made available to persons carrying out the work. All modifications made after the first installation, e.g. the provision of a new controller, should be recorded and included in the health and safety file.

4.5 Signs

All persons working on the lifting platform should be made aware of the meaning of all signs displayed in public areas.

The ultimate responsibility for safety signs rests with the owner, although in some cases it may be delegated (see **5.3**). The owner should ensure that all persons working within a liftway are made aware of all relevant safety signs and ensure that permanent safety signs are displayed in clearly visible positions where a risk exists, including:

a) where access to machinery spaces/panel is required (see Annex A, Figure A.2);

b) where a mechanical blocking device is needed (see Annex A, Figure A.3).

4.6 Electrical supplies and equipment

*COMMENTARY ON **4.6***

The integrity of the electrical supply is solely the responsibility of the owner. See also Annex C.

The owner should give the lifting platform contractor access to the electrical supplies.

The owner should ensure that existing electrical supplies, conductors and their terminations (which might give rise to danger) are:

a) of the appropriate rating;

b) insulated;

c) tested at regular intervals;

NOTE 1 See IET Guidance Note 3 [N1] and BS 7671:2008+A1, Chapter 62.

d) installed in accordance with BS 7671.

The frequency of inspection and testing of the electrical installation should be determined taking into account the type of installation, its location and the frequency of maintenance.

Where tests are made the owner should obtain a test certificate detailing the condition of the supply.

NOTE 2 Typically tests are carried out by a competent person working in accordance with BS 7671 and IET Guidance Note 3 [N1], where the certification requirements are defined.

The owner should ensure that, from time to time, a risk assessment is carried out on all electrical equipment associated with a lifting platform installation in accordance with IET Guidance Note 3 [N1], to ensure that all precautions have been taken to eliminate or minimize the risks to the health of all persons working on such equipment.

NOTE 3 Attention is drawn to the Electricity at Work Regulations 1989 [16], the Electricity at Work Regulations (Northern Ireland) 1991 [17] and HSE publication HSR 25 [18].

The lifting platform should be capable of being isolated from its energy source(s) in a manner to prevent inadvertent reconnection.

The owner should notify the lifting platform contractor before they make any modifications to the electrical supply, e.g. voltage reduction systems, phasing changes.

All exposed conductive parts should be guarded against inadvertent contact.

Work should not be carried out on or near to live electrical equipment ("live working") unless working in this way is unavoidable, in which case the recommendations in Annex C should be followed. Such work applies to the electrical supplies provided by the owner and to equipment provided as part of the lifting platform installation. In such instances, work should be carried out only by a competent and trained person, implementing a safe system of work that has been established by a risk assessment.

NOTE 4 Where a person is working on or near to exposed electrical conductors, e.g. with an open door on a controller without adequate protection against direct contact, this is classed as "live working".

Depending on the type of building, any temporary lighting at a landing entrance or within the liftway should be either:

1) for an occupied building: at a voltage of not more than 110 V derived from a supply with centre-tapped earth in accordance with BS 7375 or 230 V protected by RCDs; or

2) for a construction site: at a voltage of not more than 110 V derived from a supply with centre-tapped earth in accordance with BS 7375.

Temporary lighting on landings should be protected against damage.

Emergency lighting and, where necessary, temporary electrical supplies should be provided for all workplaces.

NOTE 5 BS 5266-1 gives recommendations for emergency lighting.

4.7 Working on the landing

*COMMENTARY ON **4.7***

Persons engaged in the maintenance and examination of lifting platforms, or in effecting the emergency release of users, might need to open a landing door/gate while the carrier is not at that landing, e.g. in order to gain access to the liftway or the carrier.

Whenever a landing door/gate is unlocked or open with the carrier not stationary or at the level of that landing, there is a foreseeable possibility that persons at that landing might be at risk.

Potential hazards and risks arising at landings include:

a) improper use of the landing door/gate release key;

b) falling down the liftway from the landing;

c) gaining access to the carrier when it is not at the level of the landing or gaining access to parts of the carrier or liftway that are not normally accessible;

d) coming into contact with moving parts of a lifting platform, including crushing.

These hazards might endanger any persons in the vicinity of the landing entrance, e.g. occupants of the building and members of the general public, including children and elderly, infirm or disabled people.

Landing door/gate unlocking keys should have a warning label attached stating that the keys are to be used only by trained and authorized persons. The owner should check that the release procedures and owner's documentation provided by the installer and handed over with the product reflect the same warnings. The owner should ensure that the use of the unlocking key is strictly controlled, that it is stored securely, and that its use is strictly limited only to those persons who have been trained and authorized to use it in order to release trapped users (see Annex A, Figure A.4).

Where there is a risk of falling for persons or objects, or where other persons might be in the vicinity, effective precautions should be provided to protect an open landing door/gate.

For construction sites and enclosed liftways where landing entrances are not installed as part of the liftway construction, or where a landing entrance is removed as part of modernization, these precautions might take the form of either:

a) a fixed barrier, which comprises a guard rail at least 950 mm high with a mid-rail and a toe-board that is fixed across the landing entrance threshold. Any gaps should not exceed 470 mm; or

b) a fixed solid full height hoarding.

In addition to the above recommendations, additional precautions should be taken to prevent objects falling into the liftway where this hazard has been identified, e.g. a portable barrier similar to that shown in Figure 1 that can be secured to prevent easy removal or collapse.

NOTE 1 It might be necessary to provide an unattended barrier extending to the full height of the entrance when it is foreseeable that persons might climb over a barrier, e.g. vandals or children playing.

NOTE 2 Built-in arrangements for locating and fixing barriers at landing entrances are not normally provided on lifting platform installations, and aesthetic considerations could cause difficulties when special provisions for the fixing of barriers are requested. Several designs of easily portable barriers have been produced that can be fixed quite rigidly at landing entrances without any structural alterations being necessary. Such barriers could be stored at strategic locations so as to be readily available to personnel when required.

For lifting platforms in an enclosed liftway, where a landing door/gate has been removed or is open, and if the carrier is to be moved under power, the following conditions should be applied:

1) any hold to run controls should be operated from a safe position;

2) where the control position is remote from the carrier, a line of sight with the carrier should be established;

3) where the control position is remote from the carrier, an audible and visual warning should operate automatically;

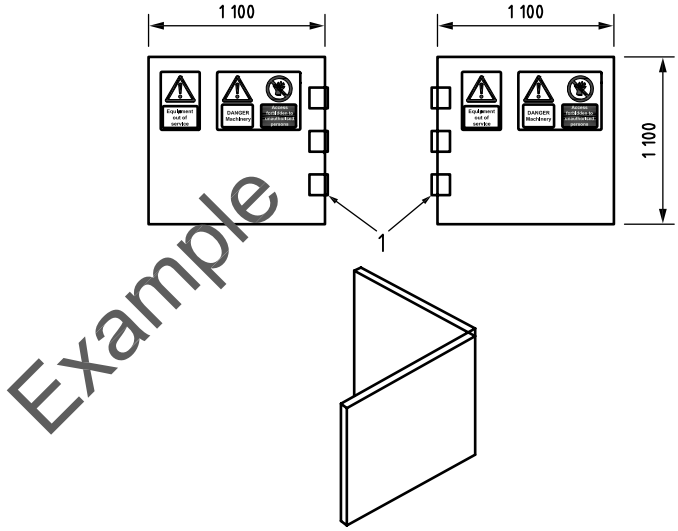
4) a full height enclosure with an access door should be provided;

5) the access door should be lockable and should be able to be opened without a key from inside the enclosure.

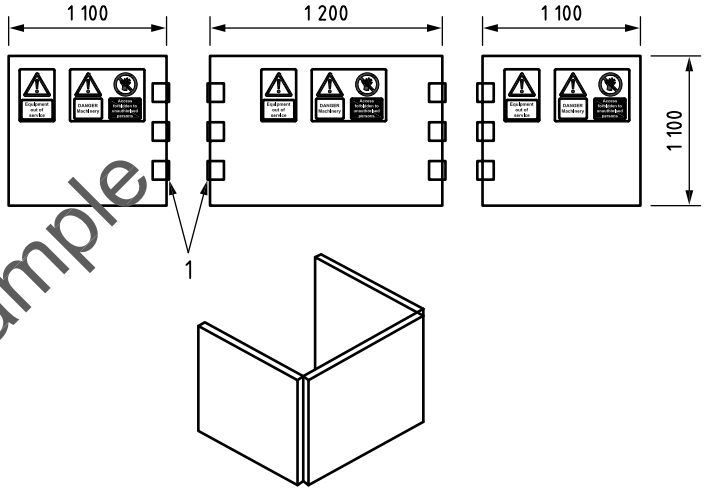
All protective barriers should incorporate relevant safety signs in accordance with BS EN ISO 7010.

Figure 1 **Examples of lifting platform landing entrance barriers**

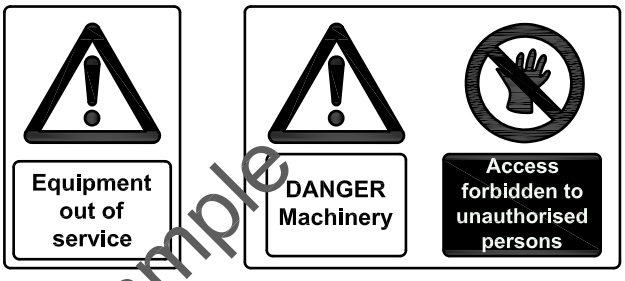
Dimensions in millimetres



a) Triangular landing door/gate safety barrier



b) Rectangular landing door/gate safety barrier



c) Signs to be displayed on landing entrance barriers

Key

1 Hinges

4.8 Working under the carrier within the liftway

The owner should ensure that sufficient lighting levels are provided for all work activities carried out by competent and authorized persons within the liftway. Unless a higher level is identified by risk assessment, a lighting level of at least 50 lx should be provided at 1 m above the lifting platform and where work is carried out.

NOTE 1 Other lighting to enable work activities to be carried out might be provided by the lifting platform installer.

Where permanent refuge spaces are not available below the carrier, a mechanical blocking device should be provided by the owner together with a safety sign (see Annex A, Figure A.3). The mechanical blocking device should be used to create a space between the underside of the carrier and the bottom of the liftway before working.

NOTE 2 Such a device is required for new lifting platforms.

Where a mechanical blocking device is not permanently fitted, it should be stored in a safe location in the liftway or stored and locked in a position as close to the lifting platform as practicable. The storage location should be identified by a sign in the liftway.

Where a door other than a landing door is provided for access to the liftway, e.g. to access user release mechanisms, which gives access to a hazardous zone, the owner should ensure that it is electrically interlocked with the lifting platform safety circuit and that an appropriate warning notice is displayed (see Annex A, Figure A.2). Suitable barriers should be in place (see **4.7**) before any work commences.

The owner should ensure that, where there is a risk of a person working in the liftway becoming trapped and where no means are provided for escape from the liftway, an alarm or voice communication system is installed.

4.9 Working on the carrier

Where work is to be carried out on the carrier, a device that prevents free fall of the carrier should be installed for the duration of the task to be undertaken if a risk assessment identifies the risk of falling.

NOTE Persons working on lifting platforms can be exposed to risk of falling from height. Attention is drawn to the Work at Height Regulations 2005 [19] and the Work at Height Regulations (Northern Ireland) 2005 [20], which require a specific assessment to be made, recorded and retained for such risks.

The owner should ensure that, where there is a risk of a person working on the carrier becoming trapped and where no means are provided for escape via the liftway, an alarm or voice communication system is installed.

4.10 Machinery spaces

Owners should ensure that all relevant safety signs are displayed.

Other than when work activities are being carried out within a machinery space, the access door(s) should be kept locked to prevent unauthorized access.

4.11 Safe release of trapped users

*COMMENTARY ON **4.11***

Safe release procedures are required whenever the lifting platform is blocked and persons on the carrier are unable to release themselves. The procedures differ for different types of lifting platform, e.g. with screw, chain or hydraulic drives. The general procedures given in this subclause are applicable for all types of lifting platform. Except for exceptional circumstances, e.g. in a hospital or nursing home or in the event of a fire in the building, persons trapped on a carrier are not in any imminent danger, although some degree of anxiety and discomfort can be experienced. Although release procedures are not to be delayed, undue haste can lead to the unsafe application of the recommended procedures for the safe release of users.

Means should be put in place to facilitate the safe release of trapped users, preferably by a lifting platform rescue company, although the owner may appoint capable members of staff to carry out the procedures (see **4.2**). The owner should ensure that the release of users is carried out only by competent and authorized persons who have received the necessary training, because it is dangerous for any other persons to attempt to do so.

NOTE 1 Failure to adopt correct procedures could increase the risk to trapped persons or those undertaking the rescue.

The owner should ensure that a regular check is made of the operation of any emergency lighting on or over the carrier and any emergency alarm fitted, to ensure operation in the event of a power failure.

All release operations to be adopted should be carried out according to the manufacturer's or other authorized instructions for the lifting platform concerned. These instructions should be readily available to persons carrying out rescues by, for example, keeping them in a locked cabinet by the lifting platform or in a nearby management office.

An appropriate means should be implemented by which all persons affecting the release of trapped users are able to communicate with one another.

Where the landing door/gate to be used to release user(s) trapped on a carrier is not in the direct sight of the person designated to move the lifting platform, an authorized person should be stationed at the landing door/gate. This person should be in direct communication with the person designated to move the lifting platform and also with the users on the carrier, and should continually reassure the users and ensure that users do not attempt to leave the carrier prematurely.

Trapped users should be warned of the intention to move the carrier and that they should not attempt to leave it until they are advised that it is safe to do so.

Before commencing movement of a lifting platform, the electrical supply should be isolated from its energy source(s) in a manner to prevent inadvertent reconnection.

Rescue procedures should be appropriate to the type of lifting platform. When passenger release operations are to be undertaken to move the carrier to a landing level, the carrier should be lowered to the lowest landing where the manufacturer's release procedure, reflecting the design of the lifting platform, allows this. Most hydraulically powered lifting platforms have an emergency lowering valve; if there is no such valve present, the owner should provide one wherever the site conditions permit.

If the carrier is not at a landing and cannot be moved to a landing using normal release procedures (e.g. if there is no emergency lowering valve for a hydraulic lifting platform or if a screw-type lifting platform has jammed), then no further attempt should be made to move the carrier and no landing door/gate should be unlocked. The owner should ensure that any further procedure is carried out only by a rescue service.

NOTE 2 The maintenance company may provide the rescue service. In extreme circumstances, e.g. in a life-threatening situation, it might be necessary to call the fire and rescue service.

Following any release procedure or any use of the unlocking key, it is important that the owner ensures that any landing door/gate which has been unlocked is re-closed and locked and the unlocking key securely stored (see **4.7** and Annex A, Figure A.4).

NOTE 3 Failure to ensure that landing doors/gates are locked after the use of the unlocking key potentially exposes persons attempting to use the lifting platform to a falling hazard.

5 Safety management: responsibilities of persons working on lifting platforms

*COMMENTARY ON CLAUSE **5***

*Not every lifting platform is identical, modern or similarly positioned; nor are machinery spaces (if any) of identical size or shape, nor segregated, illuminated or located within similar environments. The range of possible equipment and installations, along with the extent to which lifting platform owners might be able to fulfil the recommendations in Clause **4**, has implications which need to be taken into account with all the subclauses in Clause **5**. In particular, the type of equipment installed has implications for:*

- *ensuring the competence of those working on the particular equipment (**5.2**);*
- *liaison to ensure safe working (**5.3**);*
- *risk assessment, taking into account the particular type of equipment installed, and ensuring that workers have the appropriate details from the health and safety file (**5.4**);*
- *provision of appropriate signage for the equipment installed (**5.5**);*
- *the safe use of the unlocking key (**5.7**);*
- *the method used for the safe release of trapped users, and related instructions (**5.11**).*

*Some of the recommendations in Clause **5** might not be applicable to lifting platforms in domestic premises.*

*Recommendations that are applicable to owners of lifting platforms and to persons having effective control of the premises in which lifting platforms are installed are given in Clause **4**. The owners of lifting platforms in domestic premises might not be able to fulfil all of the recommendations in Clause **4**.*

The site person in charge, supported by their organization, is usually expected to be responsible for the safety of persons working on lifting platforms. This does not absolve individuals from acting responsibly in respect of their personal safety, or site owners or other relevant parties from their respective responsibilities under law.

5.1 General

The recommendations given throughout Clause **5** should be applied by all persons (duty holders) responsible for, and involved in, the design, installation, modernization, thorough examination, inspection, testing, service, maintenance, repair or dismantling of lifting platforms.

Hazards relating to moving and rotating machinery, electrical equipment, falls from height, etc., which are similar to those experienced in other workplaces, should be identified in a risk assessment in accordance with **5.4**.

5.2 Training and competence

5.2.1 All personnel

All persons who might at any time be working on a lifting platform or related equipment, or be carrying out risk assessments, should possess demonstrable competence in basic lifting platform safety and procedures or be under relevant supervision.

NOTE 1 Relevant supervision may be provided by any person who possesses demonstrable competence in basic lifting platform safety and procedures.

*NOTE 2 A suitable level of certified competence is the qualification EOR/206 "Lifting platform safety", although other suitable qualifications exist [see **5.2.2**, Note 1)].*

5.2.2 Lifting platform fitter and testers

A lifting platform fitter should be suitably trained, qualified by knowledge and practical experience, provided with necessary instructions and supported within their organization to enable the required operations to be safely carried out.

NOTE 1 A suitable minimum level of certified qualification, supplemented by product-specific training, is one of the following:

- *Level 2 NVQ Diploma in Engineering Maintenance and Installation (QCF) following an appropriate pathway in Servicing Lifting Platforms (ENM);*
- *Level 2 NVQ Diploma in Engineering Maintenance and Installation (QCF) following an appropriate pathway in Installing Lifting Platforms (ENL).*
- *Level 3 NVQ Diploma in Engineering Maintenance (QCF) following an appropriate pathway in Lift Servicing (EMG) and/or Lift Repair (EMH);*
- *Level 3 NVQ Diploma in Installation and Commissioning (QCF) following an appropriate pathway in Traction Lift Installation (ICC) and/or Hydraulic Lift Installation (ICD).*

Other suitable certified qualifications might exist, including older certified qualifications.

Those undertaking testing work should be suitably trained in safe working procedures and should have the experience, skill and knowledge to undertake the commissioning of lifting platforms following installation, refurbishment or relocation. They should hold qualifications relevant to the products they work on, i.e. lifting platforms.

NOTE 2 A suitable minimum level of certified qualification, supplemented by product-specific training, is Level 2 NVQ Diploma in Engineering Maintenance and Installation (QCF), following an appropriate pathway in Installing Lifting Platforms (ENL), supplemented by training to ensure adequate competence in electrical testing. Other suitable certified qualifications might exist.

5.2.3 Other tradespersons

Other tradespersons, such as general cleaners, glass cleaners, rubbish clearers, painters, electricians, welders, builders, etc., working on lifting platform equipment should be competent in their practising trades. They should be under supervision of their employer. They should not enter or work in a liftway (see **4.4**), nor should they work in the liftway, on the carrier or any part of the lifting platform unless:

a) they are under the supervision of trained lifting platform personnel at all times;

b) trained lifting platform personnel have secured the lifting platform against movement in either direction, both electrically and mechanically.

5.2.4 Other persons accessing the liftway or machinery spaces

Any person accessing the liftway, pit or machinery spaces other than to carry out maintenance, repair or modernization, should possess demonstrable competence in the safe operation of lifting platform equipment.

NOTE Other persons might include inspectors, surveyors, examiners, consultants, etc.

5.3 Responsibility for work

A suitably qualified person should be appointed to be the site person in charge responsible for all work relating to the lifting platform installation, and they should be fully aware of their duties.

The site person in charge should ascertain who is acting on behalf of the owner in order that they can report the start, progress and completion of the work.

Before starting work or taking a lifting platform out of service, the site person in charge should advise the owner's site representative of the intention to do so, and should display an out of service sign (see Annex A, Figure A.1).

The site person in charge should liaise with the owner's site representative on at least the following aspects:

a) familiarization with the relevant parts of any safety assessment undertaken by the owner;

b) familiarization with the work site from commencement of the work, including the effect the work is likely to have on other persons in the area;

c) directing and managing the work safely;

d) ensuring that the work site is handed back to the owner in a safe condition on completion of the work;

e) understanding the risks that could arise as a result of the work and agreeing the necessary control measures;

f) ascertaining how to summon emergency assistance if required;

g) obtaining advice on any special precautions or procedures required for works being undertaken within the premises;

NOTE 1 Such precautions might become necessary owing to environmental factors, e.g. where children are present in the vicinity.

h) ascertaining the presence of any asbestos;

NOTE 2 Attention is drawn to the Control of Asbestos Regulations 2012 [6].

i) in conjunction with the owner, establishing procedures for:

1) the avoidance of build-up of waste materials;

2) the control and safe disposal of waste and other items and substances that are potentially injurious to health and safety;

NOTE 3 Attention is drawn to the Control of Substances Hazardous to Health Regulations 2002 [7] and the Control of Substances Hazardous to Health Regulations (Northern Ireland) 2003 [8]. Examples of potentially hazardous items and substances include hypodermic needles, human waste and radioactive materials.

j) assessing and minimizing the potential disruption to the occupants of the premises arising from the work, e.g. dust, noise, access restrictions, etc.;

k) determining the appropriate personal protective equipment to be provided as identified by risk assessment, such as head protection, gloves, eye protection, hearing protection, safety harnesses, etc. Such equipment should be used as required, maintained in a serviceable condition and replaced as necessary;

NOTE 4 Attention is drawn to the Personal Protective Equipment Regulations 2002 [21].

l) safe access for persons, tools, equipment and materials to workplaces;

m) the provision of alternative access routes as might become necessary during the works being undertaken;

n) the provision of suitable and clearly identified storage space (if required) for tools, equipment, materials and any portable access equipment;

o) the wellbeing of persons working alone, for which the recommendations in Annex B should be followed;

NOTE 5 These procedures are particularly important if a person is working alone in unoccupied premises.

p) precautions to be taken when there is more than one person working (see BS 7255:2012, Annex F);

q) obtaining permits to work as part of a safe system of work for all those undertaking tasks within designated workplaces.

Where appropriate, effective control should be imposed over all persons carrying out work, e.g. by the use of permits to work. The details of any permits to work that might be required, and the conditions imposed by them, e.g. workplace access conditions, should be made known to such persons. A safe system of work should include the use of lock-off/tag-out devices on all electrical isolator switches or other appropriate means of isolation.

5.4 General safety measures and risk assessment

Any person working and the owner should undertake, periodically review and revise site-specific risk assessments to establish safety measures that ensure the safety of persons engaged in work, and persons using the premises and lifting platforms. Risk assessments on lifting platforms should be carried out in accordance with BS EN ISO 14798.

NOTE 1 Risk assessments require periodic review because improvements in technology and/or materials could reduce the element of risk beyond that achieved by any existing arrangements, and to reflect changes in environment, usage or age of the equipment.

The risk assessment should ensure that all workplaces (see **3.16**) are safe to accommodate:

a) the work activity being undertaken;

b) all work equipment; and

c) all persons who might be affected by the works.

The safety measures identified by risk assessment should be implemented to reduce risk to an acceptable level as far as is reasonably practicable.

NOTE 2 Attention is drawn to the Management of Health and Safety at Work Regulations 1999, as amended, Regulation 3 (i) [9], the Management of Health and Safety at Work Regulations (Northern Ireland) 2000 [10], the Lifting Operations and Lifting Equipment Regulations (LOLER) 1998 [3] and the guidance, where LOLER applies, in HSE publication HSIS4(rev1) [11].

Any work carried out on lifting platforms should be performed only by qualified persons, supervised and instructed on the work and on how it is to be carried out safely. The instructions should:

1) where necessary, be in the form of written safe systems of work, which might already be included in training programmes;

2) ensure the safety of other persons who could be at risk even if they are not involved in the actual work being undertaken on a lifting platform, e.g. persons intending to travel in the lifting platform.

*NOTE 3 The installation, major repair or dismantling of a lifting platform is unlikely to be notifiable under the provisions of the Construction (Design and Management) Regulations 2007 [13] and the Construction (Design and Management) Regulations (Northern Ireland) 2007 [14]. If it is, then the recommendations of BS 7255:2012, **4.9** are applicable. Where these regulations apply, CIBSE Guide D: 2010 [15] provides guidance to CDM Regulations in relation to lift industry practice.*

Where there is more than one person working there are additional risks. Each person should ensure their own and others' safety, e.g. by isolating the equipment energy sources to prevent the lifting platform from moving. No person working in the liftway should assume that others have carried out any actions on their behalf.

Following the initial installation of a lifting platform, the health and safety file should be made available to the owner. Following major modernization of a lifting platform, the health and safety file should be amended and returned to the owner.

The health and safety file should include at least the following information:

i) "as built" record drawings and plans used and produced throughout the construction;

ii) general details of the construction process and materials used;

iii) details of the equipment and maintenance facilities;

iv) servicing and maintenance requirements, including cleaning;

v) any manuals produced by specialist contractors;

vi) any special operations where a particular method needs to be adopted;

vii) details of the location and nature of services, including emergency and fire-fighting systems;

viii) instructions for the dismantling and disposal of the equipment at the end of its working life;

ix) instructions for safe release of trapped users;

x) instructions to the owner regarding the control of the landing unlocking key (see **4.7**).

NOTE 4 The health and safety file alerts persons to the risks to be managed during the repair, service, renovation or demolition of the structure and plant after the lifting platform has been put into service.

The health and safety file should be consulted prior to working on the lifting platform installation. All modifications made after the first installation, e.g. the provision of a new controller, should be recorded and passed to the owner to be included in the health and safety file.

Any newly installed parts should be tested and checked to ensure correct operation and security.

On completion of any work on a lifting platform, basic safety checks, e.g. door/gate interlocks, should be undertaken. These checks should be in accordance with the manufacturer's instructions and signed off before the lifting platform is put back into service.

5.5 Signs

The site person in charge should ensure that all persons working within a liftway are made aware of all relevant safety signs and check that permanent safety signs are displayed (see **4.5**) in clearly visible positions where a risk exists, including:

a) where access to machinery spaces/panels is required (see Annex A, Figure A.2);

b) where a mechanical blocking device is needed (see Annex A, Figure A.3).

5.6 Electrical supplies and equipment

*COMMENTARY ON **5.6***

The integrity of the electrical supply is solely the responsibility of the owner.

The recommendations in Annex C for work on electrical parts should be followed.

The lifting platform contractor should use only the electrical supplies provided by the owner (see **4.6**).

All exposed conductive parts should be guarded against inadvertent contact.

Work should not be carried out on or near to live electrical equipment ("live working") unless working in this way is unavoidable, in which case the recommendations in Annex C should be followed. Such work applies to the electrical supplies provided by the owner and to equipment provided as part of the lifting platform installation. In such instances, work should be carried out only by a competent and trained person, implementing a safe system of work that has been established by a risk assessment.

NOTE 1 Where a person is working on or near to exposed electrical conductors, e.g. with an open door on a controller without adequate protection against direct contact, this is classed as "live working".

NOTE 2 Attention is drawn to the Electricity at Work Regulations 1989 [16], the Electricity at Work Regulations (Northern Ireland) 1991 [17], HSE publications HSR 25 [18] *and HSG 85 [22], and the* Lift and escalator site handbook *[23].*

Where work is carried out on auxiliary electrical circuits not controlled by an isolator, precautions against electric shock should be taken and these circuits should be isolated in a manner to prevent inadvertent reconnection.

5.7 Working on the landing

Landing door/gate unlocking keys should be provided with a warning label (see Annex A, Figure A.4 for an example) stating that the keys are to be used only by trained and authorized persons. The release procedures and owner's documentation provided by the installer and handed over with the product should reflect the same warnings.

The unlocking and opening of a landing door, or gate, should be undertaken only when necessary and then only by an authorized and competent person.

Any unlocking device should be kept in a safe and secure place. On completion of the work, it should be verified that the landing door/gate is closed and locked.

Where there is a risk of falling for persons or objects, or where other persons might be in the vicinity, effective precautions should be provided to protect an open landing door/gate.

*NOTE Details of suitable types of barrier are given in **4.7**.*

5.8 Working under the carrier within the liftway

All persons working within a liftway should follow all relevant safety signs.

NOTE 1 Examples of typical safety signs within a liftway are shown in Annex A.

Safe means of access and egress should be clearly established before entering the liftway. The safe means of access and egress should exist during all phases of a work activity and should be readily accessible from the workplace.

Unauthorized persons should be prevented from entering the liftway while persons are working within the liftway.

The number of persons working within a liftway at the same time should be kept to a minimum. If possible, the simultaneous activity of persons working independently of each other should be avoided. A permit to work system should be put in place where simultaneous employment of different trades is unavoidable. A risk assessment should be carried out to establish a safe system of work, and to identify whether a permit to work is necessary and who should issue it.

NOTE 2 Significant hazards can arise from the involvement of other tradespersons, e.g. cleaners, electricians, welders and builders.

Persons should not be present in the liftway while a lifting platform is moved, other than in exceptional circumstances and when they have direct access to a stopping device at all times. Where direct access to a stopping device is not available, a task-related risk assessment should be carried out to determine a safe method of work. This risk assessment should, at least, take into account:

a) the location of refuge spaces;

b) the identification of other hazards such as drains, projecting brackets, cables, chains, etc.;

c) any risks resulting from the provision of a ladder or other work platform;

d) the additional hazards created where more than one person is working on the lifting platform, specifically by the establishment of a reliable communication system between all persons and the nomination of one person to control all lifting platform movements (see BS 7255:2012, Annex F);

e) that the lifting platform should be moved only at slow speed or manually.

If a mechanical blocking device is provided, it should be correctly positioned before work is carried out in the liftway. If the carrier is to be moved while persons are in the liftway, the blocking device should be engaged.

*NOTE 3 The owner is responsible for providing any mechanical blocking device required (see **4.8**).*

A lifting platform should not be returned to normal operation after completion of work until it has been ascertained that no persons, tools, temporary access equipment, etc. remain within the liftway. Any equipment, e.g. a mechanical blocking device, should be replaced in its proper storage position.

5.9 Working on the carrier

Before working on the carrier, the trained lifting platform personnel should prove the effectiveness of the carrier control station and verify the operation of the stop switch(es), as applicable, the hold to run controls and the sensitive edges.

NOTE 1 The ineffectiveness of any of the devices might result in the carrier requiring restraint.

Whenever the carrier is stationary, the relevant stopping device(s) should be operated.

The number of persons travelling on the carrier at any one time should be kept to a minimum. One person only should be in sole control of the starting and stopping of the carrier.

The procedures adopted for moving the carrier are of prime importance, and all persons working on a carrier should be aware of when and how the carrier is to be moved.

NOTE 2 Where there is a risk of a person working on a carrier becoming trapped and where no means are provided for escape via the liftway, it is the responsibility of the owner to provide an alarm or voice communication system.

NOTE 3 Attention is drawn to the Work at Height Regulations 2005 [16] and the Work at Height Regulations (Northern Ireland) 2005 [17] regarding suitable safe systems of work.

Work should not be carried out on any roof to a lifting platform unless it is in accordance with manufacturer's instructions and a risk assessment has been carried out.

5.10 Machinery spaces

All persons working within a machinery space should follow the instructions given by all relevant safety signs that are displayed.

Other than when work activities are being carried out within a machinery space, the access door(s) should be kept locked to prevent unauthorized access.

5.11 Safe release of trapped users

*COMMENTARY ON **5.11***

Safe release procedures are required whenever the lifting platform is blocked and persons on the carrier are unable to release themselves. The procedures differ for different types of lifting platform, e.g. with screw, chain or hydraulic drives. The general procedures given in this subclause are applicable for all types of lifting platform.

The release of trapped users should be carried out only by competent and authorized persons who have received the necessary training.

NOTE 1 Failure to adopt correct procedures could increase the risk to trapped users or those undertaking the rescue.

NOTE 2 The full range of competencies contained within EOR/206 might not be required for persons carrying out the safe release of trapped users.

The lifting platform rescue company should send the requisite number of trained persons to the site to carry out the safe release of trapped users.

All release operations to be adopted should be carried out according to the manufacturer's or other authorized instructions for the lifting platform concerned.

*NOTE 3 It is the owner's responsibility (see **4.11**) to make these instructions readily available to persons carrying out the safe release of trapped users.*

An appropriate means should be implemented by which all persons affecting the release of trapped users are able to communicate with one another.

Where the landing door/gate to be used to release user(s) trapped on a carrier is not in the direct sight of the person designated to move the lifting platform, an authorized person should be stationed at the landing door/gate. This person should be in direct communication with the person designated to move the lifting platform and also with the users on the carrier, and should continually reassure the users and ensure that users do not attempt to leave the carrier prematurely.

Trapped users should be warned of the intention to move the carrier and that they should not attempt to leave it until they are advised that it is safe to do so.

Before commencing movement of a lifting platform, the electrical supply should be isolated from its energy source(s) in a manner to prevent inadvertent reconnection.

If there are no site-specific health and safety procedures available, or there are access issues regarding where the machinery is positioned, then full method statements and risk assessments should be available on site to identify the safe method of user release and the number of trained persons needed to carry out this procedure.

Rescue procedures should be appropriate to the type of lifting platform.

NOTE 4 There are many types of manual lowering procedures for lifting platforms resulting from different equipment designs and the location of the lifting platform in the building.

- *For screw-type lifting platforms, a typical method is the use of a cranked winding handle operating on the screw. Other screw-type lifting platforms might be provided with a small electric rescue motor which can bring the lifting platform to the nearest floor provided that normal or emergency power is available.*
- *For hydraulically powered lifting platforms, the principal method is the use of an emergency lowering valve. It is the owner's responsibility to provide this valve (see **4.11**).*

When a machinery space for a hydraulic lifting platform is remote from the liftway, an effective means of communication should be used between the person stationed at the landing entrance and the authorized person in the machinery space. This should be independent of the main electrical supply to the lifting platform, e.g. a telephone or radio link.

Annex A (informative)

Typical safety signs

Figure A.1 to Figure A.4 show black-and-white reproductions of the coloured safety signs that are used when work is being carried out on lifting platforms. The signs conform to BS EN ISO 7010.

Figure A.1 **Safety sign for use on a landing when a lifting platform is taken out of service**

Symbol	Black exclamation mark, yellow background, black triangle
Panel	Black lettering, yellow background
Remainder	White

NOTE See ***4.3*** and ***5.3***.

Figure A.2 **Safety sign for use on an access door/panel**

Symbol	Upper: black exclamation mark, yellow background, black triangle
	Middle: black hand, red ring and bar, white remainder
	Lower: white exclamation mark on blue background
Panel	Upper: black lettering, yellow background
	Middle: white lettering, red background
	Lower: white lettering, blue background
Remainder	White

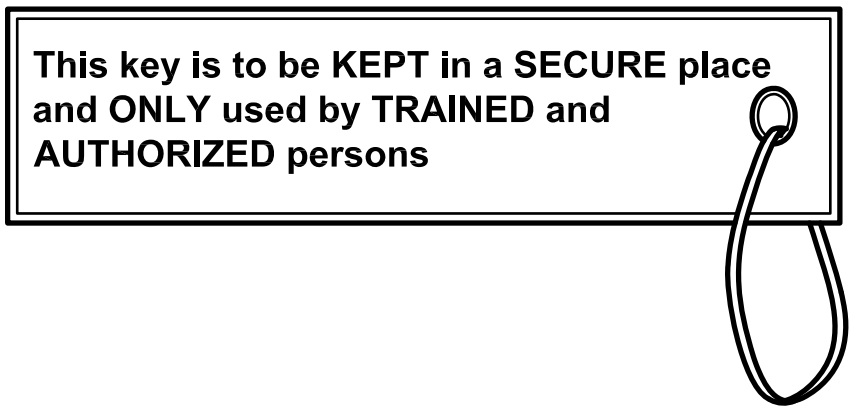
NOTE *See **4.5** and **5.5**.*

Figure A.3 **Safety sign for use in a liftway below the carrier**

Symbol	White exclamation mark, blue circle
Panel	Black lettering, yellow background
Remainder	White

NOTE *See **4.5**, **4.8** and **5.5**.*

Figure A.4 **Example of a label to be attached to a landing door/gate opening key**



NOTE *See **4.7**, **4.8** and **5.7**.*

Annex B (normative) Wellbeing of persons working alone

Before any persons are authorized to work alone on a lifting platform, a full site-specific/task-specific risk assessment should be carried out and relevant control measures should be implemented.

When a person is working alone the following procedures and provisions should be adopted.

a) Before commencing work, the person should register their presence with the owner's site representative in accordance with **5.3**.

b) Suitable arrangements should be made to ensure that the continued wellbeing of the authorized person is confirmed periodically at intervals as identified by risk assessment.

c) Any persons checking the wellbeing of authorized persons working alone should have knowledge of how to organize assistance in the event of an emergency.

d) The specific arrangements and frequency for confirming the wellbeing of the authorized person should be described in the relevant safe working procedure.

e) The person working alone should inform a responsible person off-site, such as their manager, of their proposed movements during this period.

NOTE These procedures are particularly important if an authorized person is working alone in unoccupied premises.

Annex C (normative) Electrical working

COMMENTARY ON ANNEX C

Working on the electrical equipment of lifting platforms is subject to the following factors:

a) the availability of an up-to-date wiring diagram;

b) the potential for exposure to live parts, e.g. on controllers installed before the requirement for IP2X protection (as defined by BS EN 60529);

c) the need for equipment to be energized to enable commissioning, testing or fault-finding tasks where the measurement to be taken or the fault does not exist when the lifting platform is isolated;

d) the likelihood that, with the lifting platform switched off, some electrical equipment can remain live, e.g. circuits fed from the carrier light supply or other services associated with the lifting platform.

The electrical safety of persons working and users in the vicinity of the lifting platform depends on a number of factors including:

1) the insulation and protection of live parts against direct contact (referred to as basic protection);

2) electrical continuity of the protective conductors and the bonding of exposed conductive parts to earth as part of the protective measures for protection against indirect contact (referred to as fault protection);

3) the adequate design, coordination of protective devices and installation to ensure the automatic disconnection of the supply as a means of fault protection;

4) the adoption of safe working practices;

5) the correct selection and the use of PPE, where no other options exist;

6) appropriate training and experience.

C.1 Working on isolated electrical equipment

Electrical equipment should be isolated prior to being worked on in all circumstances unless it is necessary for the work to be undertaken live, when suitable precautions should be taken to prevent injury (see **C.2**).

A secure method of isolation should be followed. Other circuits that might remain live with the lifting platform isolated should be identified and precautions taken.

NOTE 1 Such circuits may be identified by a visual inspection of the wiring and from the electrical wiring diagram.

The supply conductors should be proved to be de-energized with a device that has been confirmed to be working before the test and confirmed to be working again after the test has been undertaken (with a proving unit or on another supply if available). All equipment used should be in good condition and regularly inspected.

NOTE 2 Suitable voltage indicating devices are described in HSE publications HSG 85 [22] and GS 38 [24].

C.2 Working on live electrical equipment

Live working should be undertaken only when it is not possible to complete the work activity with a lifting platform isolated.

NOTE 1 This might be the case on commissioning, during testing or while fault-finding.

NOTE 2 It might not be possible to identify certain faults, commission or set up lifting platform equipment or take electrical measurements, unless the lifting platform is electrically powered.

NOTE 3 Working with the power on does not necessarily mean that work is carried out on or near to live exposed parts. It might be possible to conduct many work activities without creating a situation where there is direct exposure to live parts.

Where it becomes necessary to work on or near to live exposed parts, then for the work to be completed safely, the appropriate working methods should be adopted based on identifying and assessing the risks and identifying measures to control them.

Under such circumstances, the following precautions should be taken:

a) the protection of live parts, not already protected to IP2X, by temporary covers or barriers to prevent inadvertent contact with live parts;

b) the provision of adequate working space and lighting;

c) employing suitably trained and competent person(s) to undertake the work, possibly including a second person acting as a safety monitor;

d) the use of an insulating rubber mat;

NOTE 4 A rubber mat can reduce the severity of some electric shocks.

e) the use of personal protective equipment such as suitable gloves, glasses, etc.;

f) the use of insulated tools;

g) the use of test equipment suitably protected and insulated (see HSG85 [22] and GS 38 [24]);

h) taking measures to minimize any risks from falling;

i) taking measures to prevent movement of the carrier, where live electrical work is within the liftway (on or below the carrier).

C.3 Earth continuity testing and verification of conditions for protection by automatic disconnection of the supply

*NOTE 1 The owner's responsibilities for the electrical supply, as set out in **4.6**, ensure that an adequate incoming external protective conductor provides fault protection in a TN-S system.*

NOTE 2 These checks could be made as part of commissioning tests prior to placing the lifting platform into service, after a modernization, and periodically when the lifting platform is in service.

A visual inspection should be made to confirm the presence of the protective conductors from the incoming external supply (e.g. connection to the earth termination in the lifting platform isolator).

This visual inspection should be supplemented by tests, e.g. BS EN 60204-1:2006+A1, Clause **18**, which checks the earth continuity and confirms that the fault loop impedance is low enough to cause automatic disconnection of the supply within the required time. The tests for the supply should be conducted by an electrician. In addition, checks of the disconnect time for the machine and drive should be made by the lifting platform contractor.

The fuse protection of the safety circuit should be tested either by a purpose-made device or by measuring the resistance of the circuit and calculating the short-circuit current. The safety circuit should not be checked by grounding its furthest point.

Prior to energizing newly installed equipment or where modifications have been made, the tests for earth continuity and the resistance of bonding or earthing conductors should be completed with satisfactory results, before making any live measurements, such as the direct measurement of earth loop impedance.

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